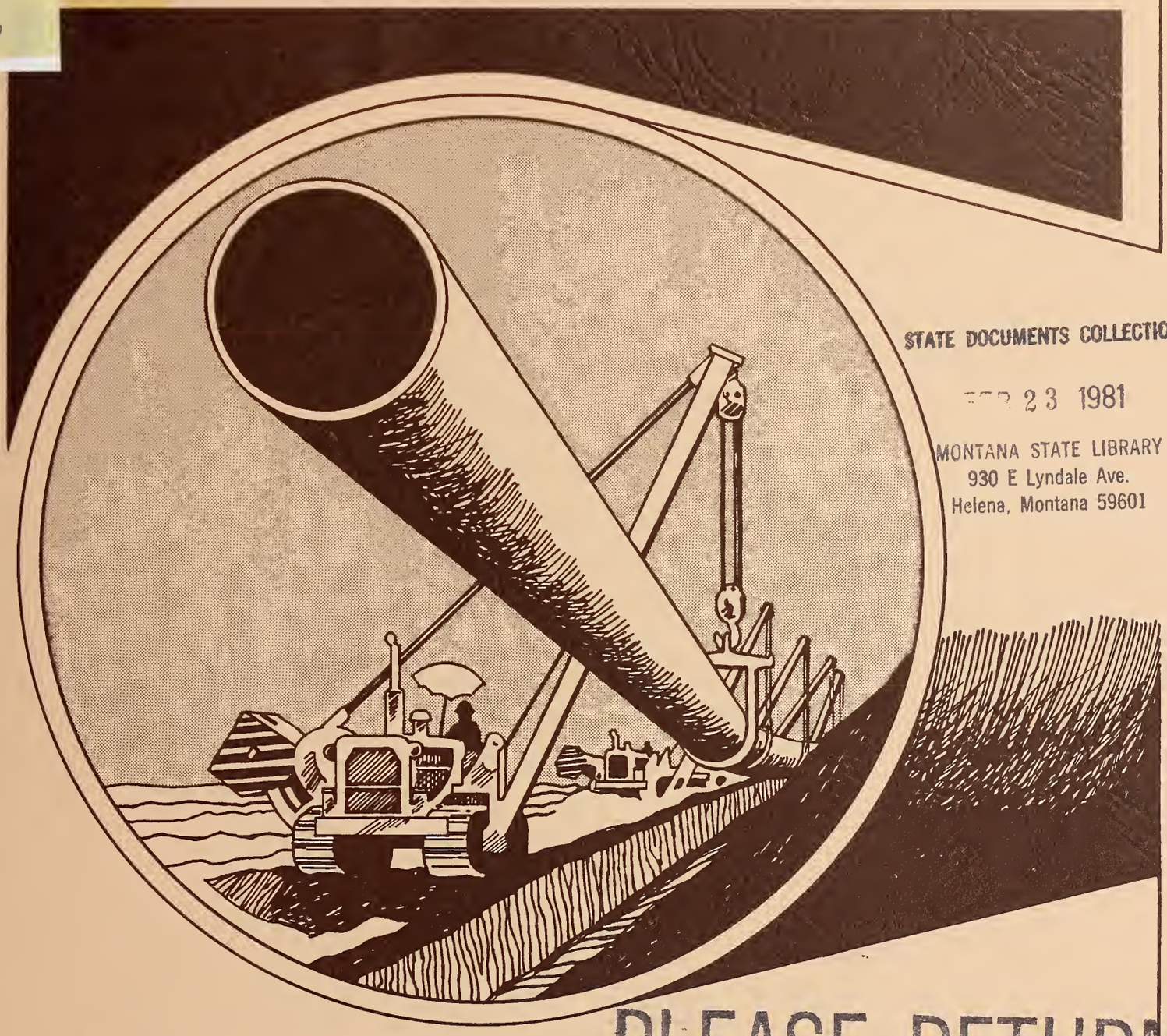


FINAL ENVIRONMENTAL IMPACT STATEMENT on the PROPOSED NORTHERN BORDER PIPELINE

MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION
FACILITY SITING DIVISION
DECEMBER 1980 DNRC

Final
ENVIRONMENTAL IMPACT STATEMENT
on the
PROPOSED NORTHERN BORDER PIPELINE

Addendum to the U.S. Department
of Interior Final Environmental
Impact Statement on the
Alaska Natural Gas Transportation
System, North Border

**Montana Department of Natural Resources
and Conservation, Facility Siting Division**

December 1980

SUMMARY

State agencies are considering issuing permits to Northern Border Pipeline Company (NBPC) for the construction of approximately 296 km (184 mi) of buried 107-cm (42.0-in) natural gas pipeline across northeast Montana. The pipeline would be one segment of the Alaskan Natural Gas Transportation System, conveying Canadian and Alaskan gas to the midwestern and eastern United States.

The proposed pipeline route enters Montana from Alberta, Canada, near Morgan, Montana and crosses Phillips, Valley, and Roosevelt counties before leaving the state southeast of Bainville. Construction of the pipeline is planned for May through November, 1981. Plans call for the pipeline to be in operation in late 1981.

The Montana Department of Natural Resources and Conservation (DNRC), designated lead agency by the Governor, published a draft environmental impact statement (EIS) on the proposed project on July 30, 1980. Public hearings were held in August. As a response to the public hearings and written comments received, DNRC has prepared this final EIS.

POTENTIAL IMPACTS DESCRIBED IN THE DRAFT EIS

Pipeline construction would provide an estimated 276 temporary jobs for Montanans, not including secondary employment. The pipeline's net benefits to Montana would be between $26 and $31 million, including wages paid during construction and taxes paid over the life of the project.

The presence of 1,500 or more nonlocal people, including construction workers and their families, could cause severe (though temporary) local shortages in housing. The aesthetic quality of the area surrounding the right-of-way would be reduced by the increase in traffic, dust, and noise during construction. Archaeologic and historic sites within the right-of-way could be destroyed.

The number of uses to which affected land could be put would be reduced, and some land uses would be prohibited within the permanent right-of-way for the life of the project. The pipeline's permanent facilities would occupy approximately 42 ha (104 acres) of land and permanently change land use. Also the pipeline would intersect the Lanark Coal Field in Roosevelt County, precluding the possibility of mining approximately 4.8 million tonnes (5.2 million tons) of lignite.

Besides these effects on people and their use of the land, the natural environment itself would be adversely affected. Vegetation and soils within the right-of-way would be disturbed temporarily until revegetation occurs (probably within one to five years along a majority of the right-of-way). Topsoil excavated from the pipeline trench would be mixed with subsoil along most of the right-of-way. In some areas this would produce a long-term increase in runoff and wind and water erosion and, possibly, a long-term decrease in soil moisture-holding capacity and productivity. The productivity of 900 ha (2,200 a) of land would be reduced. Compensation for productivity losses would be subject to negotiation between Northern Border Pipeline Company and landowners.

Trenching across waterways would temporarily increase sedimentation and destroy an unknown amount of fish spawning habitat. Compressor stations would make a long-term, though relatively small, contribution to nitrogen dioxide concentrations in the air. Other possible adverse effects are the destruction of plant associations (such as cottonwood stands) that are sensitive, highly productive, or rare in northeastern Montana, and the destruction of any individual of an endangered plant or animal species.

PUBLIC COMMENT ON THE DRAFT EIS

Most of the comments DNRC received came from federal agencies or NBPC. The bulk of the public comments received at the public hearings pertained to the project without reference to the draft EIS. The comments discussed environmental concerns such as erosion and reclamation, monetary compensation for easements, and burdens on local housing, roads, and public facilities. A public comment on the potential of the pipeline to transport synthetic natural gas led DNRC to expand the draft discussion of the issue.

NEW INFORMATION

NBPC has agreed with the Fort Peck Tribal Council to follow the proposed route across the reservation. However, North Dakota has denied NBPC's corridor and approved one north of the Missouri River that could change the Montana route. The issue is being litigated in federal court. If the federal court upholds the route change in North Dakota, NBPC might want to consider a new route in Montana to match the change. DNRC will not analyze these routes unless NBPC decides to propose one of them.

NBPC says it expects to use work camps to house construction workers. One of these would be located near Culbertson and the other would use existing housing at the Valley Industrial Park north of Glasgow. A location for the Culbertson camp has not yet been selected. Construction contractors will determine how extensive the camps would be and what services to provide.

The Northern Border pipeline could cause secondary impacts in that it might encourage the construction of coal gasification plants. The exact role the pipeline might play in future coal gasification in eastern Montana is unclear, although companies proposing construction of synthetic natural gas facilities are known to be interested in using the pipeline to transport their product. The potential social, economic, and environmental impacts of gasification would be similar to other major energy developments, but would be more pronounced in both the short and long term and also would introduce other impacts, such as the health and environmental dangers created by hazardous substances.

RECOMMENDATIONS

DNRC's draft EIS proposed 10 recommendations for minimizing possible adverse impacts of the project. Comments were received on all 10 of DNRC's recommendations. The most critical comments, from NBPC, concerned the Interagency Pipeline Task Force (IPTF) and state involvement in mitigation and centerline selection. Recommendations 1, 9 and 10 are not changed from the draft EIS. The other seven are modified because of comments. Implementation of the following recommendations depends on voluntary actions by NBPC, state and federal agencies, and private landowners.

1) The Northern Border Pipeline should follow the route proposed by NBPC.
2) The Interagency Pipeline Task Force, developed to coordinate state agency involvement in the construction of the Northern Tier Pipeline, should be expanded by negotiated agreement to perform similar coordination for the Northern Border Pipeline, with NBPC funding its share of IPTF's work.
3) The Department of State Lands should require that a centerline evaluation be conducted on state lands so that, if necessary, the location of the centerline can be altered to avoid sensitive areas such as unstable soils, critical wildlife habitat, and riparian habitat.
4) Before granting final easements, the Department of State Lands and private landowners

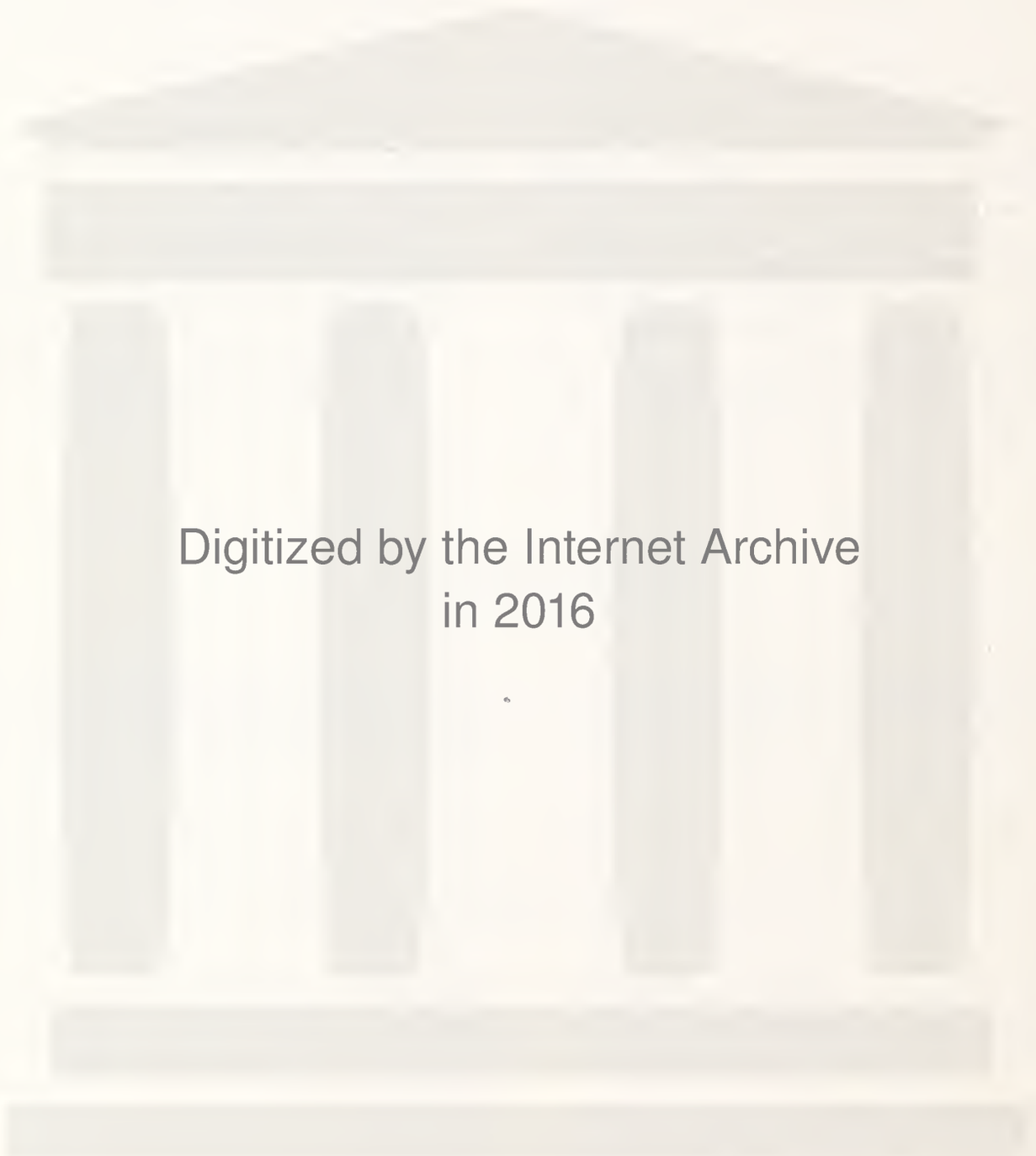
should require that NBPC make available reclamation plans based on data gathered during its centerline evaluation.

5) NBPC and the State of Montana should develop a voluntary mechanism to provide compensation for unavoidable adverse impacts of the Northern Border Pipeline.
6) If fuel supplies are short, NBPC should: (a) apply to the U.S. Department of Energy to obtain special fuel allocations for pipeline construction and (b) ensure that operation of construction equipment and travel by nonlocal construction workers would not create fuel shortages in Montana.
7) Construction of the Northern Border and Northern Tier pipelines should be coordinated to ensure that they do not occur simultaneously in any given area. If this cannot be avoided, the pipeline companies should work with state agencies to develop special provisions to reduce potential impacts.
8) When granting easements, the Department of State Lands and private landowners should consider granting a construction right-of-way 27.4 m (90 ft) wide rather than the 30.5 m (100 ft) proposed by NBPC.
9) When granting easements, private landowners, the Montana Department of State Lands, and federal agencies should consider (a) reducing the potential for wind erosion on the right-of-way by requesting that soil surfaces be contoured or ridged, wind barriers erected, and exposed soils revegetated, (b) requesting double trenching of deep, fertile topsoils and saline or sodic subsoils, and (c) locating the centerline where it avoids special use sites (important wildlife habitat, nesting sites, spawning sites).
10) When considering permit applications, Montana Conservation Districts, the U.S. Army Corps of Engineers, and the Montana Departments of State Lands and Fish, Wildlife, and Parks should consider (a) requiring alternative river crossing techniques (such as aerial and directionally drilled) and (b) permitting waterway crossings to be constructed only during periods least critical to fisheries.

CONCLUSIONS

Some of the impacts of the project may be less severe than those originally described in the draft EIS. These include: 1) Impacts pertaining to routes south of the Missouri River would not occur if NBPC constructed the pipeline along the Proposed Route, as appears likely. 2) Potential fuel shortages during construction would not be likely to occur if NBPC can obtain special fuel allocations from the Department of Energy. NBPC has said it would request allocations if necessary. 3) Impacts to roads would be primarily short-term and occur during the construction period, and 4) Housing shortages and public service impacts would be reduced if NBPC's plans for using construction work camps are implemented.

After reviewing the information in the draft EIS and material obtained since its publication, the DNRC concludes the following: 1) Conservation could supply an amount of energy equal to that to be provided by the Alaskan Natural Gas Transportation System, and at a lower cost. 2) Although there would be both short-and long-term undesirable impacts, their extent and severity would depend upon mitigating measures imposed by federal, state, and local governmental agencies and individual landowners during construction and reclamation. 3) Implementation of the recommendations presented above would help reduce adverse impacts. 4) The Northern Border Pipeline could contribute to significant secondary impacts resulting from coal gasification plants because of its potential as a transportation system for synthetic natural gas. Any gasification plant and associated impacts would be addressed in detail under Montana's Environmental Policy Act and Major Facility Siting Act when a specific proposal was made to the DNRC.



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Topsoil and subsoil excavated from the pipeline trench would be mixed along most of the right-of-way, increasing runoff and erosion, reducing soil moisture-holding capacity, and thus reducing overall productivity. Where subsoil is mixed with topsoil or left unmixed on the surface (through single trenching), the reduction in productivity would persist in direct proportion to the quality of the materials left on top. Soil quality within the right-of-way also would be reduced as a result of compaction by heavy machinery.

Construction across waterways would increase sedimentation, degrade water quality, temporarily reduce stream productivity, smother benthic organisms, and reduce fish spawning habitats. If one of the Alternative Routes is used, two separate trenchings at the Missouri River crossing site would make these kinds of impacts especially severe. Trench excavation across the Missouri River may require a construction right-of-way as wide as 183 m (600 ft) on the river banks. Depending on right-of-way width and trench depth, construction across the Missouri and Milk rivers may require the clearing of substantial amounts of riparian vegetation that is important to wildlife. In addition, if water is taken from area streams and rivers for hydrostatic testing of the pipeline, some aquatic life and habitats could be seriously affected, depending on the timing and location of the water withdrawls.

Construction would reduce temporarily the aesthetic quality of all areas immediately surrounding the right-of-way. Construction equipment would emit air pollutants and noise and generate large quantities of dust. Construction through badlands or rough topography would disrupt fragile landscapes, accelerating erosion in areas of particularly poor soils and leaving some currently unmodified landscapes looking severely scarred.

LONG-TERM IMPACTS

Most range and croplands affected by the pipeline would return to near-current production levels within several years after construction. However, in a number of areas reclamation may proceed more slowly or fail entirely. The project would likely reduce the long-term productivity of approximately 800 ha (2,000 a). In some places, the reclaimed right-of-way may contain a noticeably different species composition or be more sparsely vegetated than its surroundings. The mixing of soil horizons during construction and the possible use of nonnative species for revegetation would be partly responsible for this long-term difference in right-of-way vegetation. Another cause could be the gas temperatures within the buried pipeline, which could produce early thawing of soils and early greening of vegetation directly over the pipe. Vegetation within the sites used for facilities such as compressor stations and microwave towers also would remain altered for the life of the project.

Where the pipeline is constructed through badlands or rough topography, the abrupt topographic transitions resulting from right-of-way grading would be evident for many years. If the Proposed Route is used, the pipeline would severely affect the quality of the environment in and around the Bureau of Land Management's Bitter Creek Wilderness Study Area. The alteration of currently unmodified areas and the possible destruction of wildlife and fish habitat and cultural resource sites would also have long-term, possibly permanent, impacts. Pipeline construction activities may result in the loss of individual members of two endangered animal species (black-footed ferret and peregrine falcon). Compressor stations, when built, would make a long-term, incremental contribution to nitrogen dioxide and noise emissions.

ALTERNATIVES TO THE PROJECT

In 1977, the federal government determined that: (1) the proposed pipeline system is needed to supply natural gas to the United States, (2) the benefits to the nation would exceed the costs, and (3) the pipeline route from Alaska to Dwight, Illinois, would cause less environmental damage than other, previously proposed systems. However, the current natural gas market is substantially different than in 1977. Supply and demand are more in balance; price rises caused, in part, by deregulation have reduced demand and caused consumption to remain nearly level for several years, and estimates indicate that the delivered cost of Alaskan gas has increased sharply.

These and other changes have produced doubt about the marketability of Alaskan gas, increased the financial risk of the project, caused difficulties in arranging financing, and brought forth proposals for taxpayer and consumer debt guarantees. Nevertheless, on April 24, 1980, the Federal Energy

Regulatory Commission issued a final certificate of public convenience and necessity, authorizing the prebuilding of the Northern Border Pipeline and the importation of natural gas from Alberta. This indicates that the federal government views the prebuilding of the Northern Border Pipeline as being in the best overall interest of the nation.

Still, doubts persist concerning the wisdom of building the gas transportation system. The project is one of many major development projects now being pursued to help rectify the nation's energy problems. For the most part, these projects represent continuations of historic energy-use patterns, and the extent to which they would help solve the nation's current difficulties is questionable. The Northern Border Pipeline would facilitate continued use of natural gas as if no real fossil fuel problems exist, and might therefore promote national complacency with respect to the need for improved conservation and development of other, renewable forms of energy.

A common reaction to the nation's current energy situation is to produce proposals to provide more energy over the short-term and defer serious considerations of long-term consequences, including the need for a inevitable change in energy-use patterns. Past transitions from wood to coal and from coal to oil and gas took many years and required a complete technological turnover. It is likely that, unless more vigorous steps are taken to accelerate a new transition, the U.S. may soon be caught unprepared to cope with the full dimensions of its energy problem. Short-term solutions like the Northern Border Pipeline may be counterproductive if they are viewed as more than temporary ways of supplying us with energy while we make that transition. Furthermore, projects like the Alaskan Gas Transportation System require large amounts of capital that, if used in other ways, could produce even more energy.

Investments to improve conservation in homes and businesses would represent an obvious alternative to building the Northern Border Pipeline. This is an especially important alternative, given the extent of government involvement in the project. The pipeline is not a completely private venture and, thus, the merits of the project must be weighed on the basis of the public interest. DNRC's economic analysis indicates that if assessments of conservation potential and cost in other studies are correct, and if conservation measures are feasible, then an amount of natural gas could be saved equivalent to ANGTS deliveries at significantly lower cost. This implies that conservation should have a higher priority than ANGTS as a means to balance supply and demand. If the situation would arise in which the Northern Border Pipeline is built, but the remainder of ANGTS is not built, the pipeline would have become a particularly poor investment.

CHAPTER TWO

PROJECT UPDATE

This chapter is based on information gathered about the pipeline since publication of the draft EIS. Some of the information presented here was not available when the draft was prepared. In other cases, information in the draft EIS has been expanded in this chapter because of interest shown following issuance of the draft.

ROUTE SELECTION STATUS

CROSSING FORT PECK RESERVATION

During the final preparation of DNRC's draft EIS, NBPC and the tribal council on the Fort Peck Indian Reservation agreed in writing on terms for the pipeline crossing of the reservation (see Appendix A, NBPC letter 2). This agreement currently is being evaluated by the Bureau of Indian Affairs and Congress. Approval is likely. Shortly after reaching this agreement, NBPC began negotiating easements and surveying the centerline of its proposed route in Montana. These developments make it unlikely that the alternative routes south of the Missouri River will be considered further. DNRC recommended in the draft EIS that the pipeline follow NBPC's proposed route.

BITTER CREEK WILDERNESS STUDY AREA ROUTE CHANGES

The Bitter Creek Wilderness Study Area (WSA) consists of 23,746 ha (58,652 acres) of Bureau of Land Management (BLM) land identified as having wilderness characteristics. BLM generally described the wilderness potential of the area during the accelerated wilderness inventory undertaken because of the proposed Northern Border Pipeline. The in-depth wilderness study process will take two to three years, depending on the funding available. Following the study, BLM will recommend to Congress that all, part, or none of the Bitter Creek area be designated as wilderness.

NBPC agreed to change its route through the Bitter Creek WSA to follow an existing jeep road. The road is close to the southern boundary of NBPC's corridor (See Map I, draft EIS). The route adjustment is expected to reduce potential impacts through the Bitter Creek area.

POSSIBLE ROUTE CHANGES IN NORTH DAKOTA

On September 12, 1980, the North Dakota Public Service Commission (PSC) denied NBPC access to its preferred corridor across that state and granted a corridor north of the Missouri River (Figure 1). This issue is being contested by NBPC and the federal government in federal district court in North Dakota. The corridor approved by the PSC is about 60 km (40 mi) wide at the Montana-North Dakota border. In anticipation of the possible change in North Dakota, the North Dakota Natural Resources Council suggested to DNRC that the Montana portion of the route be shifted northward to meet an exit point west of Grenora, North Dakota, the northern boundary of the PSC's corridor. The council requested that DNRC consider this change in the final EIS. (See Appendix A, Rockwell letter).

The northward shift of the Montana portion of the route suggested by the PSC might result in shortening that portion (Figure 1). However, the advantages and disadvantages of the new route could not be formally analyzed by DNRC until NBPC requested a change from its current proposed route. If such a re-

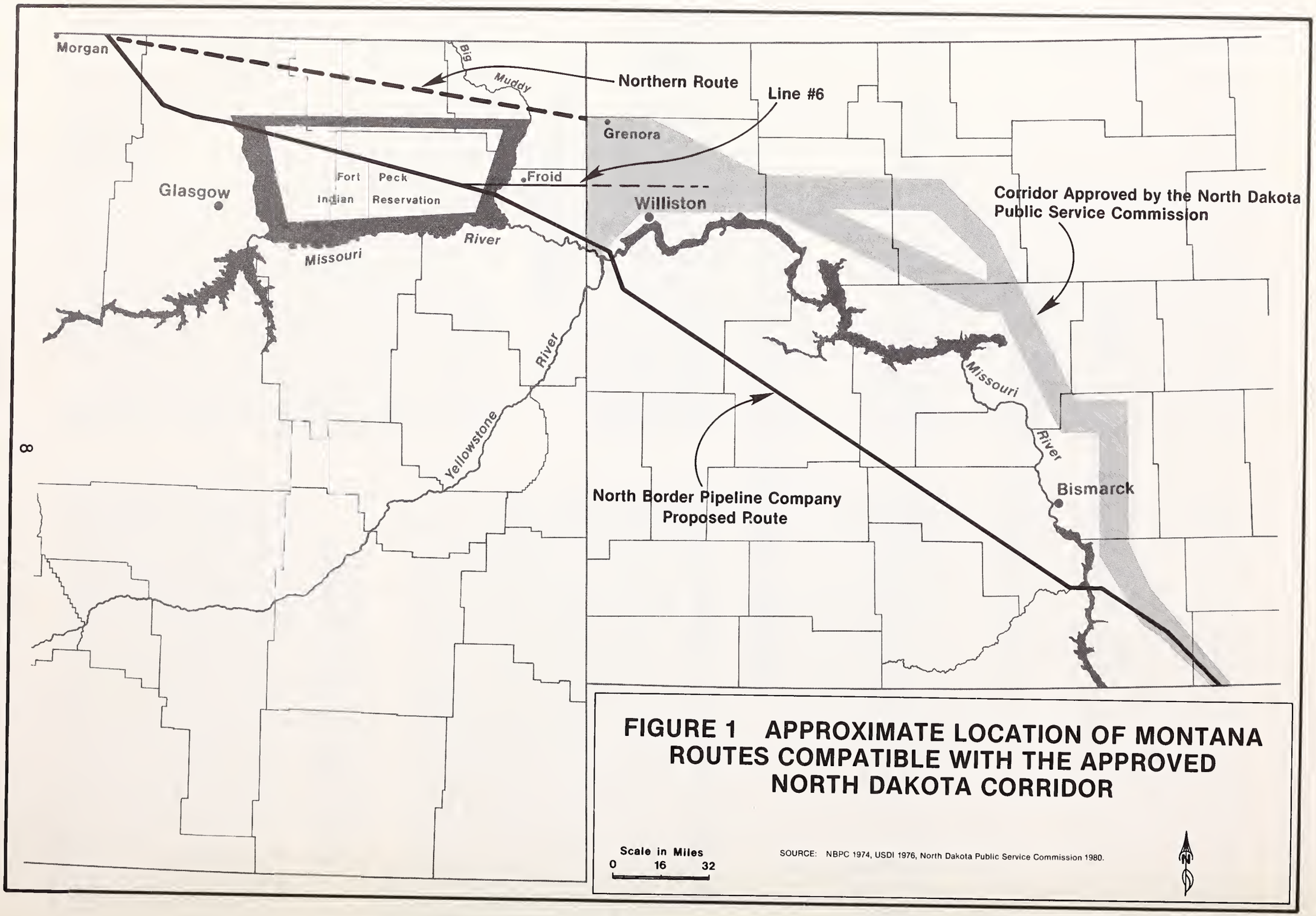

FIGURE 1 APPROXIMATE LOCATION OF MONTANA ROUTES COMPATIBLE WITH THE APPROVED NORTH DAKOTA CORRIDOR

quest were made and if the proposed reroute were considered a "substantial change (in) the proposed action" under the terms of MEPA Rule IX (1)(a), a supplement to the EIS could be required. The need for such a supplement would depend on the location of the reroute.

If the North Dakota PSC corridor were eventually approved, NBPC probably would change all or part of its Montana route along one of two alternatives. These are: 1) a route north of the Fort Peck Reservation ("northern route") and, 2) a route previously examined by the U.S. Department of Interior known as "Line #6." (See Figure 1). These routes are likely choices because of the necessity of avoiding the Medicine Lake National Wildlife Refuge north of Froid and the desirability of keeping the route as short as possible across both states. The northern route depicted on Figure 1 is a straight line between the currently proposed entry point from Canada and the suggested exit point into North Dakota west of Grenora. If it was proposed by NBPC it would be the center of a study corridor used to pick an environmentally compatible route.

The northern route does not overlap any of NBPC's proposed route and does not cross the Fort Peck Reservation. In its supplement to the Northern Border Environmental Impact Assessment, NBPC discounted the feasibility of a corridor north of the Fort Peck Reservation, on the basis of what it said was the increase in length, the need to cross the Bitter Creek Wilderness Study Area in a more sensitive portion than now scheduled for crossing, the presence of extensive areas of erodible soils and commercially minable deposits of coal, and the necessity of crossing or skirting a portion of the Medicine Lake Wildlife Refuge (NBPC 1979b). It should be noted that the corridor/route discussed here is farther north than the ones evaluated by NBPC, and the consequences of locating the route north of the Missouri River in North Dakota were not considered when NBPC did its analysis.

Approximately 160 km (100 mi) of the northern route falls within a corridor evaluated by DNRC for the Northern Tier Pipeline. An additional 50 km (30 mi) of that route is within 5 km (3 mi) of the Northern Tier corridor. If DNRC were to prepare a supplement, the Northern Tier information would be used. However, NBPC would have to invest additional time and effort in obtaining information on a new Montana route and would have to weigh this disadvantage against the merits of keeping the route as short as possible across both states.

The other alternative route, Line #6, was examined in the USDI environmental impact statement and it was found that it would avoid the potential impacts currently at issue in North Dakota (USDI 1976, also see Figure 1). Routing along Line #6 would entail a relatively short modification of the proposed route in Montana.

CONSTRUCTION WORK CAMP STATUS

One of the impacts discussed in the draft EIS was the potential for housing shortages during the construction of the pipeline. Since publication of the draft, NBPC has refined its plans to alleviate the housing shortage through the use of construction camps. These tentative plans are discussed here partly in response to a request at the public hearings that the final EIS contain more information on work camps, specifically, how NBPC plans to handle water supply and disposal of sewage and garbage (Appendix A, Gustafson comment).

NBPC has indicated that there probably will be one camp in Montana near Culbertson, with housing at the Valley Industrial Park near Glasgow also to be used. NBPC acknowledged the need for supplemental housing, but said it will allow construction contractors to determine whether to use construction camps or some less extensive housing facilities (See Appendix A, NBPC Letter 2). Supplemental housing would be required for operation during the April-November 1981 construction season. The camp near Culbertson would be designed to accommodate a work force of about 500 persons, with another 500 to be accommodated by the Glasgow facilities. The existing housing, water, and sanitary facilities are adequate in the Valley Industrial Park, although some renovation may be needed (see draft EIS, p. 46 and Boyer 1980). A specific site for the camp near Culbertson has not yet been selected.

NBPC's current plans for providing supplemental housing and for complying with applicable law regarding water for domestic use, sewage, and solid waste disposal are outlined in NBPC letter 2 in Appendix A. This letter also contains plans for providing goods and services to the camps, and outlines the company's intentions to cooperate fully with local law enforcement agencies. The use of construction camps should substantially reduce the housing and public service impacts discussed in the draft EIS.

HYDROSTATIC TEST WATER WITHDRAWALS

Several persons who attended the public hearings requested more information about hydrostatic testing of the pipeline.

Table 1 shows the proposed schedule for hydrostatic test water withdrawal based on permit applications submitted by NBPC. The applications indicate that withdrawn hydrostatic test water would be used for testing for a maximum of 120 days before discharge. On Frenchman Creek, the company plans to return 53 percent of the appropriated water to the creek at the point where it was removed. The remaining 47 percent would be discharged into Tule Creek. All water taken from the Poplar River would be returned to the point of withdrawal. It is unclear, however, where water would be discharged if alternative sources of water were used. Water not discharged back to the alternative source would probably be discharged into Frenchman Creek or Frenchman Reservoir, but might be pumped through the pipeline and discharged into Tule Creek.

The range of the proposed withdrawal dates is too wide to allow evaluation of the potential impacts described in the draft EIS. Spring is the only time of year that these streams could reliably supply the magnitude of withdrawals requested without dewatering or seriously reducing stream flow (See Table 34, draft EIS).

One method of reducing the possible impacts on streams is to build reservoirs to store water withdrawn over an extended time period at a rate slow enough to avoid dewatering impacts to the stream. Reservoirs also could be used to store water withdrawn from streams during high water periods. For this reason, Frenchman Reservoir appears to be a more reliable source than Frenchman Creek. If reservoirs are to be built, the plans for them must be submitted with the water rights applications to DNRC.

Methods and rates of discharge from the pipeline are not given. Tule Creek in particular could be greatly impacted by impaired water quality and increased erosion resulting from the discharge. The Department of Health and Environmental Sciences is responsible for the safe disposal of contaminated test water, and could place conditions on the required permits, and monitor discharge, to ensure compliance with water quality regulations.

TABLE 1 NORTHERN BORDER HYDROSTATIC TEST WATER WITHDRAWAL

Stream	Point of Diversion[2]	Rate of Withdrawal	Total Amount of Withdrawal	Time Required for Withdrawal at Proposed Rate	Proposed Dates of Withdrawal
Primary Sources:					
Frenchman Creek	NE¼, SE¼, NE¼, Sec. 12, T34N, R34E	6,000 gpm	9.2 acre/feet	3.5 days	05-01-81 to 12-31-82
Poplar River	NE¼, NE¼, NW¼, Sec. 18	6,000 gpm	55.2 acre/feet	2.1 days	08-08-81 to 12-31-82
Alternative Sources:[1]					
Rock Creek	SE¼[3], SE¼, Sec. 19, T34N, R36E	3,000 gpm	9.2 acre/feet	.7 days	06-01-81 to 12-31-82
Middle Fork Porcupine Creek	NE¼, NW¼, NE¼, Sec. 36, T33N, R40E	3,000 gpm	9.2 acre/feet	.7 days	06-01-82 to 12-31-82
Big Muddy Creek	NW¼, SW¼, SW¼, Sec. 3, T29N, R54E	3,000 gpm	9.2 acre/feet	.7 days	05-01-81 to 12-31-82

[1]Alternative sources would be used in case of line failure, changes of plans, or other unanticipated occurrences.
[2]These diversion points are approximately where the pipeline crosses these streams (refer to Map 10, draft EIS).
[3]The application for withdrawal from Rock Creek did not include the first quarter section.
SOURCE: NBPC's water appropriation applications to the DNRC's Water Rights Bureau.
CONVERSIONS: 1 gpm = .0639 liters/sec.
1 acre/foot = .001233 cubic hectometer.

AVAILABILITY OF NORTHERN BORDER PIPELINE GAS TO MONTANA

As directed by the 1977 Legislature, DNRC explored the possibility of tapping the Northern Border Pipeline to supply gas to Montana (Appendix D, draft EIS). There has also been interest in this issue by the Fort Peck Tribal Council and other groups in eastern Montana.

NBPC will not own the gas in the pipeline and thus arrangements would have to be made between anyone desiring a tap and gas suppliers in Canada and Alaska. The gas purchaser would pay for the tap. Representatives of NBPC, Montana Power Company (MPC), and Montana-Dakota Utilities (MDU) reportedly are discussing the possibility of taps. Recently, U.S. purchases of Canadian gas have declined because of high prices, reduced demand, and increased availability of U.S. gas. In view of these developments, the Montana Public Service Commission is encouraging Montana Power Company to purchase less Canadian gas, which could reduce the likelihood of an MPC tap on the Northern Border Pipeline. On the other hand, NBPC and MDU have agreed to a tap near Williston that would supply gas to MDU customers if normal MDU supplies were interrupted.

Persons interested in obtaining information on procedures to follow in obtaining a tap should contact Rod White, Northern Plains Natural Gas Company, Omaha, Nebraska (402-691-2105).

STATUS OF THE INTERAGENCY PIPELINE TASK FORCE

DNRC recommended in the draft EIS that an Interagency Pipeline Task Force (IPTF), voluntarily funded by NBPC, be established to mitigate potential adverse impacts associated with the Northern Border Pipeline. While the draft EIS was being printed, Governor Judge added his support to DNRC's recommendation that an IPTF be established for the Northern Tier crude oil pipeline. He issued executive order #5-80, which authorized state agencies to enter into a cooperative agreement to coordinate regulatory activities and provide each other with pertinent information. Montana and Northern Tier Pipeline Company signed an agreement specifying what activities IPTF is to perform to assist state agencies in conducting their regulatory duties. This agreement also requires the company to pay for the IPTF services.

DNRC's discussion of the IPTF is changed from the draft EIS, in response to the current status of the project. The Northern Border project proposal is more developed than the Northern Tier Pipeline proposal, so the IPTF probably would have a lesser role for Northern Border than for Northern Tier. DNRC recognizes this but believes IPTF could assist NBPC's efforts to obtain state permits with a minimum of delay. DNRC believes IPTF also could help provide state agencies the information, personnel and funding they need to make appropriate permit decisions in the least time.

The federal government has streamlined the federal permitting process for the Northern Tier and Northern Border Pipelines. For Northern Tier, the BLM is assigned to help the pipeline builders get the right-of-way grant necessary to cross federal land. The Office of the Federal Inspector plays a more ambitious role for the Northern Border Pipeline, where there is a major effort to ease the complexity of obtaining the many necessary federal permits. The Office of the Federal Inspector was established and funded by congress. The federal effort is paralleled on the state level by the IPTF, as developed by DNRC for Northern Tier pipeline, and recommended for Northern Border.

If NBPC agreed in principle to creating and funding the IPTF, the existing staff probably could coordinate state permitting duties for both the Northern Tier and Northern Border pipeline projects. Each company would fund only the IPTF activities specifically relating to its project. Negotiations between the state and NBPC would determine the activities and funding of the IPTF for the Northern Border Pipeline. There also would be an agreement among state agencies as to how they would cooperate to streamline the permitting process for the Northern Border Pipeline.

PIPELINE RELATED ENERGY DEVELOPMENT

DNRC received as a comment on the draft EIS a request to consider cumulative and secondary impacts the pipeline could cause by enhancing the potential for coal gasification development (Appendix A, Dobson letter). DNRC also received a study on synthetic fuels that provided new information after publication of the draft EIS (Erickson et al. 1980). NBPC responded to the comment, saying such an analysis of the role of Northern Border would not change the conclusions of the draft EIS (Appendix A, NBPC Letter 2).

The Montana Environmental Policy Act (MEPA) requires that the EIS contain a description of cumulative and secondary impacts of the proposed pipeline. This type of impact can be significant. In this case, coal gasification, and the impacts from it, might occur even if the pipeline were not built. Once in place, however, the pipeline might encourage such development. Although this issue was discussed in the draft EIS, the following information is provided both as a response to the comment and as an update to the draft EIS.

The USDI environmental impact statement on the Alaskan Natural Gas Transportation System (ANGTS) discussed the potential use of the Northern Border Pipeline for transportation of synthetic natural gas (SNG). Two rates of development of SNG plants were discussed with four to fifteen plants envisioned in Montana by the year 2000. However, the impacts of such development were not described because of a finding in the EIS that the pipeline and SNG projects were "independent actions" with a "tenuous" relationship (USDI 1976). Since 1976, the relationship of the pipeline and SNG projects has become more definite.

Both the ANGTS and a large synthetic fuels program have been adopted as part of a congressionally approved national energy strategy. As described below, there are several specific proposals to use the pipeline for SNG transportation.

ROLE OF THE PIPELINE IN FUTURE ENERGY DEVELOPMENT

The role of the Northern Border Pipeline in future coal development in Montana would depend largely on the extent to which it could be used to transport coal conversion products. Lignite coal has a low BTU (heating value) content, and must be converted near the mine into a more economically transportable form of energy such as SNG. SNG can be made into high BTU gas from coal by chemical processes, and then substituted for natural gas.

Energy developers have been interested at least since 1974 in using the Northern Border Pipeline for transporting SNG (*Anchorage Daily News*, see Appendix A, Dobson letter). There are several specific proposals for construction of gasification facilities near the proposed pipeline. These are summarized in Table 2. The draft EIS noted that feasibility studies for high BTU coal gasification facilities are being

TABLE 2 COMPANIES EXPRESSING INTEREST IN DEVELOPING COAL-BASED ENERGY IN NORTHEASTERN MONTANA

Company	Counties Being Explored	End Use	Construction Start-up	Proposed Transportation System
Consolidated Coal Company	Richland Dawson	electric power generation or synthetic fuel[1]	late 1980s	unknown
Kerr McGee Corporation	Richland Dawson	synthetic fuel[1]	unknown	unknown
Northern Minerals Corporation	Richland Dawson McCone Wibaux	electric power generation or synthetic fuel[1]	unknown	Northern Border or Montana-Dakota pipeline
Tenneco Coal	Wibaux	gasification	mid 1980s	Northern Border Pipeline
Tosco Corporation	Dawson	unknown	unknown	unknown
U.S. Steel Corporation	Richland Dawson	synthetic fuel[1] or electric power generation	unknown	unknown
Washington Energy Company (WESCO)	McCone	gasification	mid 1980s	Northern Border Pipeline

[1]Plans are not sufficiently developed to determine if the synthetic fuel will be synthetic natural gas.
SOURCE: USDI 1980a and developers long range plans.

planned by the Washington Energy Company (WESCO) in McCone County, and by the Tenneco Coal Company in Wibaux County. Also, the American Natural Gas Coal Gasification Company is constructing a gasification plant called the American Natural Resources Great Plains Lignite Gasification Project in Mercer County, North Dakota. All of these projects are within 75 miles of the proposed pipeline, and each developer has expressed interest in using it to move SNG to market. The projected market area for all three proposed plants is the midwestern or eastern U.S., the same area Northern Border would serve.

ECONOMICS OF USING THE PIPELINE

Use of the Northern Border Pipeline to transport SNG would depend upon the relative cost of such use as compared to the feasibility of building another transportation system. If built as scheduled, the pipeline will be the first large diameter gas pipeline connecting the northern great plains with eastern and midwestern distribution systems. New pipeline construction is so costly that it usually is cheaper to increase the capacity of existing systems than to build a new pipeline when an increase in delivery to the same market area is desired. Therefore, expansion of the Northern Border Pipeline would be a likely method for transportation of gas from coal gasification plants. Such expansion could be accomplished in several ways.

Under the current design, the pipeline could transport about 2.2 billion cubic feet on an average day when fully operational. This level is expected to be reached when both Alaska and Alberta gas are being transported. It is estimated, however, that there would be an average daily excess capacity of 7 percent (154 million cf/day), or about 60 percent of the output of one commercial-size gasification plant (250 million cf/d). This figure indicates that small changes in the operation of the pipeline could allow transport of significant amounts of SNG. Capacity could be increased by adding compressor stations, but the cost would be high relative to the increase in capacity.

Another option that could increase the Northern Border Pipeline's capacity is a process called looping. Looping is the addition of sections of pipe parallel to the existing pipeline using, most commonly, the same compressor stations. The pipe size of the parallel "loop" and the distance that it parallels the existing pipeline would depend upon the pressure needed in each section and upon the desired capacity increase. It would be possible to increase overall capacity by up to 100 percent by complete looping with another 107 cm (42.0-in) line.

There are several ways to increase the potential SNG transportation capacity of the Northern Border Pipeline without resorting to additional compressors or looping. For example, the Canadian or Alaskan gas that normally would flow through the Northern Border Pipeline could be diverted to west coast markets. A second option would be to not purchase Canadian gas and transport only Alaskan gas. The feasibility of these options is difficult to analyze because of the unknown future of natural gas markets and prices.

FEDERAL INCENTIVES FOR SNG DEVELOPMENT IN MONTANA

The economic feasibility of gasification in Montana will be affected by federal incentives to develop coal as an alternative energy source. Several such incentives are contained in programs set forth in the Energy Security Act (ESA). Passed June 30, 1980, ESA is scheduled to provide $88 billion from the Windfall Profits Tax for use in this decade by the Synthetic Fuels Corporation (SFC), an independent federal agency created by ESA. SFC is designed to subsidize synthetic fuel development by sharing the risks with the private sector through loan guarantees, price guarantees, direct loans, purchase agreements, participation in joint ventures, and in a limited number of cases, ownership of facilities.

Until SFC becomes operational, ESA authorizes the President to use any existing federal authority to foster synthetic fuel development. The Department of Energy (DOE) has earmarked $250 million for the American Natural Resources Great Plains Lignite Gasification Project mentioned earlier. The Tenneco Coal Company and the Washington Energy Company (WESCO) both mentioned in the draft EIS, and Northern Resources, Inc. have applied for federal money to conduct further engineering and technical studies on the feasibility of siting plants in Montana. It is clear that federal incentives are likely to foster both an increase in synthetic fuel feasibility studies and project proposals for Montana.

BLM, Montana, and North Dakota are working on a consolidated coal leasing program for the Fort Union Region (USDI 1980b). In most cases in Montana, the decision by a company to proceed with synthetic fuel development depends at least in part on the acquisition of new state or federal coal leases. BLM recently asked energy development companies if they were interested in the tracts of Fort Union coal scheduled for lease in 1983. Seven of ten responses received by BLM expressed interest in leasing for synthetic fuel production (USDI 1980a, see also Table 2).

POTENTIAL SOCIAL AND ENVIRONMENTAL IMPACTS OF GASIFICATION

Although it not certain that the presence of the Northern Border Pipeline would lead directly to SNG

development, the pipeline could improve the feasibility of transporting SNG out of Montana. If Northern Border were used because it provided a transportation system to midwest SNG markets, it would contribute to secondary impacts associated with coal development. A study of synthetic fuels impacts recently was completed for DNRC by a joint Montana State University and University of Montana research team (Erickson et al. 1980). The following discussion is based on this report, and assesses the magnitude and categories of impacts that could result from coal development encouraged by the Northern Border Pipeline.

Social and Economic Impacts

A gasification plant could cause significant short-term and long-term economic impacts, including large demands on local governmental services during construction. There would be both favorable and unfavorable consequences as discussed below.

Construction Period Impacts The influx of a large number of workers during the construction period could generate some of the most significant social and economic impacts. This type of impact has been demonstrated by other coal development (Bender and Parcels 1980). An average construction period for a gasification plant probably would be about five years with peak employment ranging from 3,000 to 5,000 (Erickson et al. 1980). The burdens on local governments could be offset at least partially by the increased tax revenue generated by the project. However, it is not clear how local governments could deal with the cost of coal development impacts before receiving tax receipts. The coal severance tax was designed to help offset these costs, but may not cover all of them.

The economic structure of much of eastern Montana could be transformed if population influxes associated with gasification development replaced agriculture as the economic base (DNRC 1980d). The skill levels of the construction workforce introduced into local social structures may change both the composition of the population and the existing social structure (Gold 1974). Local governments might be adversely affected by the increased demand for services before increased tax revenues could be collected (Bender and Parcels 1980).

Operations Period Impacts Estimates of the work force needed to operate a gasification plant range from 600 to 700 persons (Erickson et al. 1980). Most of these jobs would not carry over from the construction period, so considerable job turnover would occur in the transition from plant construction to plant operation. Although operational period jobs could be performed by persons with entry level job skills, these jobs would be difficult for the long-time residents to obtain because of competition from workers brought in during the construction phase (Bender and Parcels 1980).

There are no useful projections as to the extent of associated development likely to be caused by a gasification plant, but some studies provide estimates based on impacts of other coal developments. They indicate that the severity of the impacts may be highly sensitive to local or regional conditions such as town size, distances between towns, present retail employment, and primary employment. Therefore the key determinants of plant related impacts may be the magnitude of population growth caused by the plant, the number of local workers employed during construction and operation, and the length of time local economies have to adjust to the range of changes brought by the development (Bender and Parcels 1980).

Material and Energy Demand A gasification plant represents a massive capital investment project with considerable demand for material and energy during construction and operation (Erickson et al. 1980). The largest material requirements would be for steel and copper for plant equipment, piping and girders. The bulk of construction materials would be purchased outside Montana and shipped to the plant site, suggesting that regional and local firms rarely would benefit from such purchases (Erickson et al. 1980). Increased fuel demands associated with the transportation of material to the site, and fuel demand for the operation of the gasification plant itself could affect energy use patterns in the construction area (Bostwick and Kellogg 1979). Electricity to power the plant and associated facilities could be acquired either by on-site generation or by the purchase of power from existing sources.

Environmental Impacts

There are no commercial-sized coal gasification plants in the U.S. so the only studies on the impacts of such facilities were done on foreign plants. These plants do not necessarily use the same processes that would be used on gasification plants in Montana. This is important because each such process generates its own particular mix and volume of pollutants (Erickson et al. 1980). Some of these pollutants are produced by other types of facilities, such as oil refineries and coal-fired power plants, but many are not. In other cases, attempts have been made to project impacts from small demonstration gasification plants. For these reasons, there is limited usefulness in attempting to predict the environmental effects of a hypothetical coal gasification plant in Montana.

Air Quality Air pollution from coal gasification plants could affect public and worker health and environmental quality. Some of the air quality impacts would result from the burning of coal to produce electrical power for use at the plant. The control technologies for the types of pollutants produced by coal-fired generating plants are well known (Brown and Witter 1979). Other impacts to air quality are more difficult to control, and would be caused by the escape of pollutants from valves, storage facilities, cooling towers and waste disposal systems (Schalit and Wolfe 1978). A major air quality impact may be caused by the end use of the product if it contains trace pollutants (Bohn et al. 1980). There are almost no studies on the effects of large amounts of pollutants that could be discharged in the event of fire, explosion, or other emergency (Erickson et al. 1980).

Water Quality and Use Coal gasification consumes water in its conversion process and for cooling and pollution control. Depending on the cooling technology, the estimated water consumption of a commercial gasification plant without associated power generation ranges from 3,250 to 8,240 acre-feet/year (Probstein and Gold 1978). It is important to note that these projections are based on the performance of small demonstration plants, and because gasification plants usually include an electrical generation plant to produce power for the gasification operations, actual water consumption could be much higher (Bohn et al. 1980).

The type and amount of water contaminants released by a plant is related to the chemical composition of the coal used. Hazardous water pollutants may contaminate terrestrial and aquatic environments through seepage into surface and groundwater and erosion from solid waste storage piles, leaks from settling ponds, and other fugitive sources (Goldstein and Yung 1977). Water withdrawals could cause impacts to both shore life and aquatic environments through reduced streamflows (Miller 1974).

Solid Waste Gasification would cause a large solid waste disposal problem (Bostwick and Kellogg 1979). Accurate estimates are hard to make because the amounts of solid waste produced vary with the type of pollution control technology used and the ash or chemical content of coal. Types of solid waste generated by coal gasification include ash from electrical generation, residue from the actual gasification operations and spout catalysts, sludge from flue gas desulfurization, organic sludge from biological oxidation, and small amounts of inorganic salts (Bostwick and Kellogg 1977). The chemical composition of some of these wastes makes them hazardous for both aquatic and terrestrial ecosystems (Brown and Witter 1979). The projected waste disposal method is backfilling into the coal mine. Other more costly and technically sophisticated disposal methods are being researched, however (Bostwick and Kellogg 1979).

Health Coal gasification could pose occupational and public health problems (Brown and Witter 1979). The preparation and combustion of coal and the disposal of waste all release trace elements and particulates similar to those released by coal fired electric generation plants. Additional problems result from the hazardous substances associated with gasification, many of which are similar to residues produced by oil refineries. Much of the research on the health hazards of these pollutants indicates they may have both short and long-term effects (Erickson et al. 1980).

CONCLUSIONS

Because of various political and economic uncertainties, such as the operating strategy of the Alaskan Natural Gas Transportation System, the amount and distribution of federal synthetic fuel subsidies, the extent and timing of coal leasing, and the effects of state and federal law, it is difficult to clearly determine what role the Northern Border Pipeline could play in future pipeline related energy development in Montana. It is clear, however, that there is interest in using the pipeline as a future transportation system for SNG. Gasification would generate categories of impacts already associated with coal fired electrical generation, coal mining, oil refineries, pipeline construction, and also would introduce other impacts about which little is known. The mechanism for federal-state interaction in siting gasification plants is not entirely clear, but any proposal to build a plant would be subject to detailed review under Montana's Major Facility Siting Act and Environmental Policy Act.

CHAPTER THREE

COMMENTS AND RESPONSES

Following publication of the draft EIS, DNRC held public hearings at Wolf Point, Glasgow, and Malta. Fifty-nine people attended the hearings. The only formal testimony received was from an NBPC representative, although 17 people filled out comment sheets at the hearings or mailed them in later. Most of the informal comments during the hearings and written public comments received afterward were opinions about the proposed project and need no response. Responses to comments on DNRC's impact analysis in the draft EIS appear in this chapter, while responses to comments on DNRC's proposed recommendations appear in chapter 4. A few commentators requested further information, and responses to these comments are integrated into chapter 2. Appendix A contains a list of all persons, agencies, and organizations who commented.

Written statements directly pertinent to the draft EIS were received from NBPC, public agencies, and individuals. In accordance with MEPA rules, NBPC was given an opportunity to respond to the comments DNRC received on the draft EIS. NBPC's response to the comments is reproduced in Appendix A, Letter NBPC 2.

The comments in this chapter are categorized by subject and appear in bold face. Many of them are consolidated for brevity and readability but appear in their entirety in Appendix A, as referenced at the end of each comment.

RECLAMATION AND LANDOWNER CONCERNS

Why does NBPC insist on a perpetual easement from private landowners when there is only a 30-year supply of natural gas in Canada, especially considering that NBPC has only a 30-year lease on BLM land crossed by the pipeline? Also, why is easement compensation not the same for all classes of landowners? (public hearings)

Chapters one and two of the draft EIS described NBPC's proposed system, natural gas supply and demand, and the economics of the proposal. Specifically, NBPC estimated that under certain circumstances the system could be in operation for 100 years. Proven reserves in Alaska are expected to last 30 years. There also are undeveloped gas fields in Canada, such as those in the MacKenzie River delta, and in Alaska. The total amount of gas in these fields is unknown. All these considerations make it difficult to predict the useful life of the proposed system.

The draft EIS contained some information concerning easement negotiations for landowners (pp. 57-58 and Appendix D). The BLM has a standard easement grant subject to renegotiation after 30 years. Also, the rental value of BLM land is adjusted every year for inflation and reappraised every five years. Private landowners probably are at a disadvantage in easement negotiations because they are subject to eminent domain and because legal assistance is not as readily available to them as it is to governmental agencies. This leads to differing compensation rates. Landowners were advised in the draft EIS to seek legal assistance if they so wished when negotiating easements (See draft EIS, p. 119).

The DNRC hearings came too late to be useful, inasmuch as most permits have been obtained, most easements purchased, and most route surveys completed. (public hearings)

DNRC agrees that it would have been more appropriate to publish the draft EIS and hold hearings before NBPC began negotiating easements. Information in the draft could have been used by landowners to determine the extent of impacts to cropland productivity, for example. However, NBPC was operating under a federal grant of eminent domain by the Federal Energy Regulatory Commission (FERC). Furthermore, the pipeline was proposed under special federal legislation known as the Alaskan Natural Gas Transportation Act. According to the procedures set up by this Act, the Office of the Federal Inspector would oversee pipeline construc-

tion and have primary authority for enforcement of environmental terms and conditions (including reclamation) on private land (Executive Office of the President 1977a). However, the terms and conditions approved by the federal inspector apply only to federal land. In May 1979, the FERC staff proposed that the federal certificate granting eminent domain to NBPC be required to contain a provision for a detailed landowner handbook. However, the federal inspector rejected this proposal in November (Rhett 1979) and FERC did not require it for the certificate issued in April 1980.

The draft EIS tended to elaborate on the negative aspects and consequences of the pipeline. If some of the mitigating measures noted on page 101 had been included with the impacts, more balance would have been provided. This would have given the reader some idea of the anticipated construction control practices. (BLM)

If the mitigating measures referred to on p. 101 of the draft EIS had been given in their entirety, they might have provided balance, but might also have misled the reader because there was no assurance they would be used. The Montana pipeline review process gives other state agencies greater permitting control over pipeline construction than DNRC has (see Table 1, draft EIS). For this reason, general mitigation practices for the project as a whole were recommended in the draft EIS. Chapter 4 of the draft EIS also contained discussions of the most important mitigating measures. The separate list of mitigating measures is specific to northeastern Montana and was supplied with the draft EIS to state agencies for consideration as possible permit conditions or easement stipulations. It may be obtained from DNRC. Application of specific measures depends on site-specific information obtained at the permit level of environmental review and on statutory authority given to the agencies.

The federal legislation that approved the Northern Border corridor contained provisions for the development of environmental stipulations to ensure that the pipeline was built in an environmentally sound manner. There is no established mechanism to ensure use of the federal stipulations on private land through which most of the Montana route passes (see response to preceding comment). Therefore, DNRC concluded that the "worst case" should be addressed along with a range of other possibilities.

The advisability of double trenching on deep fertile soils and saline or sodic soils would require careful evaluation, because the trencher cannot take less than 30.5 cm (12 inches) of soil in a pass, and terrain irregularity often results in a cut of uneven depth. Where soils are saline or sodic, the trencher may mix a high pH subsoil horizon with a lower pH surface horizon, reducing the potential for revegetation. (BLM)

Double trenching should be used on all segments of the pipeline to ensure proper handling and replacement of topsoil. (SCS)

NBPC's double trenching proposal would apply to both public and private lands where subsoil would cause reclamation problems if mixed with topsoil. Examples of problem subsoils include gravels and dense clays. The draft EIS gives the incorrect impression on p. 75 that soil impacts were assessed only for public lands. (NBPC)

DNRC agrees that the problems mentioned by the BLM are significant. DNRC does not recommend double trenching in badlands and other areas with thin soils where there is little vegetation to begin with. Selective removal of thin topsoil by means of a blade or other similar method is warranted in certain circumstances. For example, BLM requires that NBPC remove approximately 8 to 15 cm (3 to 6 inches) of topsoil from a 7.3 to 9.1 m (24- to 30-foot) strip with a bulldozer and place the topsoil in a windrow near the edge of the strip. A trencher would then dig the pipe trench on the opposite edge of the strip and place the subsoil between the trench and the windrowed topsoil.

The proper depth of removal would depend on the type of soil and subsoil. The BLM requires removal of topsoil to a depth not to exceed 8 to 10 cm (3 to 4 inches) on sodic soils and 13 to 15 cm (5 to 6 inches) on nonsodic soils. However, where subsoils have good fertility and texture, the BLM procedure would not be cost-effective. The DNRC therefore suggests that the NBPC concentrate most of its reclamation efforts on areas where, 1) fertile topsoils overlie infertile subsoils, and 2) there is enough topsoil to make stockpiling effective, as discussed on p. 75 and 79 of the draft EIS. Further documentation of DNRC's analysis of the benefits of double trenching, including a list of soil types suitable for double trenching is contained in the soils and vegetation study done for the draft EIS (Nichols and Noel 1980).

NBPC is correct that its soils interpretations were done on all land along the route regardless of ownership. The statement on p. 75 of the draft EIS is clarified in the response to the following comment.

DNRC's statement that Northern Border's reclamation emphasis is on establishing vegetation where little or none occurred originally is exaggerated (draft EIS, p. 79). Vegetation would be introduced only to steep slopes where it would be one of the several erosion control measures. (NBPC)

The statement in the draft EIS was intended to say that NBPC should put more emphasis on the reclamation of fertile soils. NBPC's draft plans indicated that the primary reclamation strategy,

double-trenching, would be applied to about 21 percent of the proposed route (draft EIS, p. 75). The double-trenching was directed toward establishing vegetation. This 21 percent is mostly thin soil where little or no vegetation now grows and where natural rates of erosion are high to begin with. Much of the remaining 79 percent is relatively fertile soil which supports vegetation. This fertility should be preserved by double-trenching. This is not to say, however, that revegetation is necessarily inappropriate in some areas of thin soils and steep slopes.

The specification in Figure 7, page 28 of the draft EIS regarding the backfilling of rock in the top 30.5 cm (12 inches) of the pipeline trench applies primarily to croplands where rock is excavated from lower depths and brought to the surface. (NBPC)

NBPC's proposal did not clearly state what construction techniques it would use on different types of land, such as cropland or rangeland. In the absence of such information, Figure 7 was an attempt to describe typical overland pipeline construction techniques. NBPC's comment leaves it unclear what its intentions are on land other than cropland.

The concern in the EIS (p.77) regarding weed control is exaggerated, as Northern Border will cooperate with the County Weed Control Boards and the landowners. (NBPC)

Weed control is a major concern of landowners in the pipeline area. The extent to which weeds would be controlled is unclear, as NBPC has not furnished a list of herbicides or other control means it would use. One important control measure is the cleaning of trenching equipment to prevent the spread of rhizomatous weeds. Close cooperation among landowners, county weed control boards, the Department of State Lands and NBPC would help prevent weed problems on the right-of-way and adjacent lands.

Fencing would be necessary to prevent cattle from falling into the open trench, and to protect reclaimed areas after installation of the pipe. At least two years protection from livestock would be required to allow reestablishment of vegetation on reclaimed areas. Landowners should be compensated for temporary loss of the use of their land and DNRC should make a recommendation to that effect. (BIA, SCS)

Any given segment of the pipe trench would be open for only a short period of time, and it probably would be possible in most cases to keep cattle out of pastures where the trench was open. DNRC agrees, however, that long term protection of some areas would be necessary for successful reclamation and that some fencing would be required to accomplish this. NBPC has said it would employ three options in these areas: 1) providing temporary fencing, where practical, 2) arranging for year long deferred grazing, and 3) arranging for winter grazing only (Appendix A, NBPC Letter 2). In some cases it may be cheaper for NBPC to pay the landowners for the temporary loss of use of their pasture or rangeland than to build fences. Payment for these temporary losses, and for any additional livestock feed required, should be negotiated with the company.

DNRC's recommendations 4 and 9 concern NBPC's reclamation plan and suggestions to landowners regarding reclamation. However, DNRC does not have the information necessary to make a general recommendation concerning case-by-case reclamation.

Contrary to the draft EIS, gas temperatures in the pipeline are not anticipated to cause premature thawing of the ground surface or snow cover. (NBPC)

The term "surface" in the draft EIS (p. 77) was meant to indicate "plant root zone" and was misleading. The discussion was intended to say only that soil temperatures above the pipe would be elevated. In late winter and early spring, elevated soil temperatures could cause early thawing of the root zone and early green-up of vegetation.

The soil compaction referred to on page 74 of the draft EIS would be eliminated by the use of a chisel or cultivating equipment before the final preparation of the seed beds. (NBPC)

Heavy construction equipment would compact some soil types to depths below those accessible to chisels or cultivators. For this reason the discussion on page 74 still applies.

It is essential that wind erosion be controlled during reclamation, especially in sensitive areas such as the sand dunes east of Big Muddy Creek, mentioned on page 78 of the draft EIS. (BIA, SCS, public hearings)

The route currently proposed by Northern Border is within a few hundred yards of the sand dunes. Because of the sensitivity of the area, it is essential that it be protected from disturbance by construction equipment and off-road vehicles. Wind erosion control methods such as mulching, revegetation, and soil contouring are described on p. 79 of the draft EIS.

NBPC said it has identified about 26 km (16 miles) of erodible soils in Roosevelt County and describes special wind erosion control measures to be taken in these areas (see Appendix A, Letter NBPC 2).

MISCELLANEOUS ENVIRONMENTAL CONCERNS

There is no evidence to suggest the probability of seismic activity sufficient to seriously threaten the pipeline along the Brockton-Froid or Hinsdale faults. (NBPC)

The draft EIS (p. 23) contains a documented discussion of the seismic hazard in northeastern Montana and along these two faults, about which little is known. The short historical record of earthquakes in this area indicates the likelihood of a damaging earthquake is small. The possibility of such an event should not be discounted, however. A quake on May 15, 1909, was felt strongly in northeastern Montana, with a maximum intensity of approximately 6.5 Richter magnitude. The epicenter is unknown, but some researchers believe it occurred in southern Saskatchewan (Coffman and von Hake 1973). Canadian researchers, however, cite evidence that the earthquake actually occurred in Montana (Stevens et al. 1972, Agarwal 1962). It seems prudent for NBPC to follow DNRC's suggestion (draft EIS, p. 23) to study the faults for evidence of whether movement has occurred during the past 10,000 years. Study of the faults would be inexpensive, involving either trenching portions of the route at the fault traces prior to construction, or merely examining the geology along the pipe trench before the pipe is set in. If movement has occurred, the pipeline and related facilities should be redesigned accordingly.

NBPC plans to install two 107 cm (42-inch) pipes at the Missouri River crossing if the southern route is used, contrary to the statement in the draft EIS (p. 33) that two 91.4 cm (36-inch) pipes would be used. (BLM)

At the time the draft EIS was written, NBPC was planning to use 91.4 cm (36-inch) pipe. NBPC says it has changed its plans and will use two 107 cm (42-inch) pipes for the crossing if a southern route is selected (Mertl 1980).

The draft EIS is erroneous in saying that only 10 percent of the welds will be X-rayed. The company plans to X-ray nearly all the pipeline welds. (BLM)

NBPC said it will comply with federal regulations which require X-ray testing or other comparable testing of 10 percent of all welds in cross-country construction, and 100 percent of all welds at crossings of roads, railroads, and large streams. An NBPC official recently told DNRC that he knew of no plans to X-ray more welds than required by federal regulations (Mertl 1980).

The draft EIS misleads by implying on pp. 35 and 102 that the pipeline will be buried only 1.2 m (4.0 ft) below the channel bed to accommodate scour. The planned pipeline burial depth across the Missouri and Little Missouri rivers in North Dakota is 4.8 m (16 feet). (BLM)

The draft EIS does mislead on this point. Figure 9 on p. 35 was based on a drawing supplied by NBPC which also was misleading. The "stream bottom" label on Figure 9 should read instead "Stream bottom at maximum scour." On page 102 the sentence referring to burial depth should be changed to "below the estimated scour depth" instead of "below the river bottom."

The important point of the discussion of safe burial beneath the river bottom is that scour depth must be estimated, and different estimation methods produce different results, especially on large rivers. For this reason, reference to burial depth is not useful unless it is based on an accurate estimate of the scour depth at the crossing. Because of the potential large margin of error in scour depth estimates, DNRC suggested in the draft EIS (p. 35) that the pipe may need to be buried as much as 3 meters (10 ft) below the estimated scour depth on the Milk and Missouri rivers to provide an extra safety margin. Additional studies of the crossing sites would be needed to estimate scour depth with greater accuracy.

The statement on page 82 that "some pipe coatings contain tar that would affect the quality of the water" is irrelevant because NBPC will not use coatings containing tar. (NBPC)

Possible pipe coatings were identified in NBPC's Environmental Assessment. Those materials were to be "either a hot applied coal tar or petroleum product, a chemical epoxy material, a plastic, or a combination thereof" (NBPC 1974, p. 1-49). The design manual for the pipeline, a more recent document, does not say what material will be used (NBPC 1979a). DNRC based its analysis of potential water quality impacts on these documents and would need further written documentation before it could change the analysis.

The statement on page 79 that high-standing vegetation might be lost on the Rock Creek crossing is erroneous. There is no such vegetation at the crossing site. Northern Border will initiate special habitat restoration in critical areas where required. (NBPC)

DNRC did not analyze NBPC's centerline at Rock Creek (see next comment). There is high-standing vegetation such as willows and reed grass in the vicinity of the crossing. However, NBPC is correct that trees or brush are not present at the crossing described in its proposal, but the high cliffs in the Rock Creek canyon may require that this crossing be moved.

Reference to the proposed route as being 1.6 km (1.0 mile) wide is incorrect. The permanent easement for the pipeline will be 16.5 m (54 feet) wide. (NBPC)

The comment shows confusion as to the meaning of the term "route." NBPC submitted aerial photos of its 4.5-5 mi corridor to DNRC. The corridor maps showed a proposed route that was undergoing further evaluation by NBPC. A final location of the 54-ft permanent right-of-way could not then be known. In order to select an environmentally sound final location, an area wider than 54 feet had to be examined by both NBPC and DNRC. To provide flexibility in route selection, DNRC examined an area .8 km (.5 mile) wide on either side of NBPC's proposed route.

NBPC does not anticipate any need to drive on the right-of-way through the Bitter Creek Wilderness Study Area during normal operation of the pipeline. (NBPC)

DNRC agrees that vehicles will not normally be used on the permanent right-of-way during pipeline operation. However, it might be necessary for NBPC to use the right-of-way through the Bitter Creek area for vehicular access after the construction period ends if reclamation fails on the poor soils found there. Any such traffic through the Bitter Creek area would have undesirable impacts if wilderness status were granted in the future.

On page 91, Table 35, Big Muddy Creek is not listed as a fishery for walleye or northern pike. Big Muddy Creek and its tributaries are recognized fishing areas in the spring for these two species, especially just before and during spawning. (SCS)

Further inquiry by DNRC showed that northern pike do use the drainage for spawning and sometimes are found as far upstream as the town of Medicine Lake. Walleyes are present at the mouth of the creek. Big Muddy Creek should be crossed in late summer or fall, as already recommended for several other streams along the route (draft EIS, p. 92).

Low-growing shrubs could normally be allowed to grow over the right-of-way in wildlife habitat areas where they occurred. (NBPC)

NBPC is correct. However, taller shrubs and trees probably would have to be kept clear from the right-of-way. Those few tree and tall shrub habitats found within the pipeline corridor should be avoided as much as possible during centerline selection.

The pipeline right-of-way will cause no appreciable long-term impacts to undulating rangelands and dry croplands, as preexisting contours will be restored and vegetation reestablished. (NBPC)

To the extent that preexisting contours would be restored and vegetation reestablished, the DNRC agrees that long-term impacts referred to in the comment probably would not be significant. However, the statement in question (draft EIS, p. 63) had to do with visual impacts. Slight changes in vegetation or topography would be enough to cause this impact (see following comment).

Berms, terraces, and soil contouring are not always suitable for erosion control in badlands (draft EIS, p. 79) or highly erodible soils, because these and similar practices will degrade the natural scenery of badland areas, and may channel water or otherwise cause more damage than they correct in such erodible areas. (BLM)

DNRC agrees, and recommends that the applicability of such methods be evaluated carefully on a site-by-site basis. For problem areas, DNRC suggests that NBPC first consider measures such as use of jute mesh and hydromulching, which do not involve manipulation of topsoil or small-scale surface drainage flows.

The conclusion on air quality recommends installing "wet control" technology to reduce nitrogen dioxide emission at compressor stations to 75 ppm instead of the allowed 150 ppm. On page 70, it is said that large amounts of clear water are required for this type of emission control. Yet, the section related to obtaining water for hydrostatic testing says water is short and only a few rivers have enough for this purpose. Since water is critical in these areas, it may be desirable to allow the emission standard of 150 ppm rather than using scarce water. (BLM)

With certain exceptions, The Environmental Protection Agency established the emission limit for large pipeline compressors. One of these exceptions applies to stations located in "arid and remote areas" where 150 ppm would be allowed to avoid the economic hardship of water transport. NBPC told DNRC that the "arid and remote" standard applies along the Montana segment of the pipeline (NBPC 1979c). Without specific data to ascertain whether this determination is correct, DNRC recommended that the Department of Health and Environmental Sciences (DHES) study the economic feasibility of applying each standard (draft EIS, p. 71).

The draft EIS estimated that the use of "wet control" technology could require about 24,495 l/d (7,000 gal/d) of water. Although surface water is scarce in the project area, NBPC's plans were not developed enough to establish whether each compressor station would be in an "arid and remote" area or that the predicted amount of clean water would be needed. Thus, the economics of water supply and transport

will need to be examined for each compressor site when NBPC applies for permits.

Two other considerations may affect which standard is applied: 1) emission control technology may improve enough by the time stations are built to reduce water requirements or to attain emission levels at or near the 75 ppm standard without "wet controls," and 2) a particular station may affect nearby Class I areas so that the lower standard would apply.

SOCIAL AND ECONOMIC CONCERNS

On page 10 of the draft EIS, the estimated cost of the entire ANGTS system is discussed. The President's Decision with respect to ANGTS was based on an estimated cost of $12.4 billion (1977 dollars). It should be pointed out that the $23 billion figure used includes the gas conditioning plant and gathering facilities which the $12.4 billion figure doesn't. Therefore, it is misleading to compare the two figures to arrive at a percentage of increase in cost. (Office of the Federal Inspector)

The discussion in the draft EIS concerning the increase in cost of the entire system is somewhat misleading for the reasons stated in the comment. However, the $12.4 billion figure in the President's Decision is only one of several cost estimates. This figure is not in 1977 dollars but in current dollars (i.e., escalated to the time of construction) and includes a cost overrun estimate. The "base case" figure used in the President's Decision is $10.3 billion (current dollars) which is the cost estimate used in the draft EIS.

Although the President's Decision does not include the gas conditioning plant and field facility costs in the ANGTS capital cost estimates, they are estimated at $1.4 billion 1975 dollars in the net national economic benefit calculation contained in the President's Decision. Gas conditioning and field facility costs are part of the cost of Alaskan gas and must be included in total cost estimates for the ANGTS. If the $1.4 billion estimate had been escalated to the time of construction (see p. 177 of the President's Decision) and added to the $10.3 billion estimate, the resultant figure would show the percentage increase in the estimated cost to be 187 percent rather than the 225 percent estimated in the draft EIS.

The draft EIS (pp 51-52) overstates the case regarding the potential for impacts to public roads and the consequent financial burden upon the state and counties because NBPC will be paying taxes and special load permit fees. (NBPC)

NBPC is correct as far as long-term road conditions are concerned.

DNRC's main concern with short-term road impacts was based largely on the scarcity of roads in portions of the project area and the consequent concentration of heavy traffic on them (see Map IV, draft EIS). NBPC has said it will pay taxes to counties for county road maintenance, and special use permit fees to the state for maintenance of primary and secondary roads, and will be bonded, which assures local county commissioners that funds will be available to repair road damage (Ivanovich 1980). Thus, in the long run, some roads probably will end up in better condition than before construction of the pipeline.

Generally, the negative impacts will be short-term, occurring during the construction period, with road conditions improving thereafter as funds are available to make repairs. NBPC will not pay taxes until the pipeline is completed. As a result, counties may have problems meeting the increased costs of road maintenance requirements during construction. To prevent this problem NBPC should develop, with local officials, advance plans for road maintenance and the handling of emergencies (draft EIS, p. 102).

The final EIS should explain how the influx of workers and their families is likely to affect law enforcement in specific communities. (public hearings)

NBPC recently hired a consultant to work with state and local law enforcement officials to address any potential law enforcement problems associated with construction (see Appendix A, letter NBPC 2). If work camps are provided, this problem should be minimal.

The statement in the EIS (page 45) that approximately five percent of the overland construction jobs would go to local residents contrasts with the 40 percent estimate contained in the Northern Border Environmental Assessment and USDI EIS. Forty construction jobs have been committed for the Fort Peck tribes alone. (NBPC)

The Northern Border and Department of Interior employment projections of 40 percent were made before the oil and gas boom in northeastern Montana (NBPC 1974, USDI 1976). Given current and projected employment figures for the area, (see draft EIS, pp. 44-48), a more accurate estimate at the time of DNRC's analysis was that five percent of the overland construction jobs (60 jobs) would go to workers living in the impact area.

The Fort Peck tribes have a tribal employment rights ordinance based on federal laws that permit Indian preference hiring on some projects built on or near Indian reservations. According to the director of the Tribal Employment Rights Office, it is tribal policy to enforce preference hiring of qualified In-

dians both for construction work and subcontracting jobs (Weeks 1980). The tribes and NBPC signed a resolution in late June 1980 that guarantees seven permanent jobs at the pipeline substations to tribal members. Weeks estimated that the 40 construction jobs mentioned in NBPC's comments are in line with his office's expectations for Indian employment during construction.

The 40 jobs promised to the Fort Peck tribes may be in addition to, rather than part of, the 60 jobs expected to go to northeast Montana residents. If this is the case, net benefits to Montana described in chapter 2 of the draft EIS would increase. An additional 216 Montanans from other parts of the state are expected to obtain pipeline employment (draft EIS, p. 48).

The draft EIS says that the entire Alaskan Natural Gas Transportation System will be completed two years after the Northern Border Pipeline is finished. This statement is incorrect. Plans call for the completion of the entire system in late 1985, which will include the placement of additional compressors on the Northern Border segment of the system. (Office of the Federal Inspector)

The two-year figure was taken from materials submitted to DNRC (NBPC 1979d). Schedules have changed since publication of the draft.

POLICY

The preparation of an environmental impact statement by the State of Montana conflicts with the Alaskan Natural Gas Transportation Act (ANGTA) wherein the President of the United States and the Congress determined that federal EIS's prepared on the project under the National Environmental Policy Act (NEPA) are sufficient and adequate. (NBPC)

DNRC prepared its draft EIS after determining that the federal EIS's were inadequate to comply with the Montana Environmental Policy Act (MEPA). MEPA requires that an EIS be prepared on state actions that significantly affect the human environment. The state actions in this case were the granting of state permits. ANGTA authorized the President to identify provisions of law that were to be waived during the authorization and permitting of the project (chapter 15, sec. 719e(5)). There was no such waiver of state laws in the President's Decision, and provision was made for state and federal coordination.

As discussed in the draft EIS, ANGTA authorized the President to select a gas transportation system among several competing international project proposals. Northern Border is part of the system the President selected. The choices at this level of decision were among two competing overland systems and a liquefied natural gas system with transport by ship. The federal EIS's on these projects were prepared under NEPA in the mid 1970s. The federal government noted the need for additional environmental studies as the project description became more defined (Executive Office of the President 1977b).

The economic analysis in chapter 2 of the draft EIS, which challenges the need for the Northern Border Pipeline, "stands as an anomaly without the support of fact and law," because the need for the project has been determined for all purposes by the President, Congress, and the Federal Energy Regulatory Commission. (NBPC)

DNRC prepared a draft EIS on the Northern Border Pipeline in compliance with MEPA, several provisions of which apply directly to the above comment. It should be noted that analysis of the environmental impact of a proposed action is only one part of this Montana law.

A central requirement of MEPA is the examination in an EIS of alternatives to a project. MEPA also requires that state agencies shall recognize the "national and long range character of environmental problems" and lend support to programs designed to improve "national cooperation in anticipating and preventing a decline in environmental quality." Energy conservation is a state policy (Governor's Energy Message to the Legislature 1977). The economic analysis contained in chapter 2 of the draft EIS thus was necessary to determine if conservation were practical.

In examining the federal record referred to in the comment, DNRC found that conservation of natural gas had not been examined sufficiently, probably because the federal EISs on the project were published before the potential of conservation became apparent. Closely related to this was the finding that the natural gas market has changed substantially and that federal decisions were largely based on an analysis of earlier market conditions. DNRC received no factual criticism of the findings of chapter 2.

It is an oversimplification to say that DNRC challenged the federal determination of need for the system. The draft EIS (p. 22) said: 1) the ANGTS is less urgently needed than it appeared to be in 1977; 2) the U.S. faces a potential surplus of natural gas that may last a few years; 3) there is uncertainty about the marketability of Alaskan gas and thus the financeability of the ANGTS system; and 4) conservation could save, at a much lower cost, an amount of energy equivalent to that to be delivered by ANGTS. The federal record of the decisions on the project contains discussions of the first three points (see chapter 2, draft EIS). However, the fourth point,

concerning natural gas conservation as an alternative, was not sufficiently explored in the economic studies done on the federal level, and DNRC's draft EIS points out that, under certain conditions, conservation may be a prudent alternative.

The advocacy of conservation practices (pp. 17-20) as an alternative to constructing the pipeline conflicts with letters 1 and 2 in Appendix D concerning the desirability of obtaining a tap on the pipeline in Montana because of need in Montana for Alaskan gas. (BLM)

The letters refer to the investigation of the possibility of obtaining such a tap, as directed by the Montana Legislature in a joint resolution to state agencies passed in 1977. The advocacy of conservation and the attempt to rely less on foreign energy sources are both state policies, as noted in letter 1. Chapter 2 contains additional information on a tap.

The draft several times attributes the responsibilities of the federal inspector to the Federal Energy Regulatory Commission (FERC) (pp. 38, 39, 107). The NBPC plans referred to must be approved by the federal inspector. All functions insofar as they relate to enforcement of federal statutes or regulations were transferred to the federal inspector under Reorganization Plan No. 1 of 1979. (Office of the Federal Inspector)

The comment reflects the current situation, but it fails to consider the history behind the federal inspector's office. Reorganization Plan No 1, the congressionally-approved executive branch authorization for the Office of the Federal Inspector, gave the federal inspector enforcement authority over a large number of federal laws. However, the permit conditions and environmental stipulations concerning the construction of the pipeline are largely determined by federal agencies and rely upon the federal inspector to coordinate enforcement.

The Office of the Federal Inspector was not staffed until July 1979 and an office for the Northern Border Pipeline was not opened until September 1980. The NBPC plans referred to in the comment concern construction and environmental planning, and were being prepared under FERC authority for several years prior to 1979. Environmental stipulations for the entire system also were approved by FERC through the issuance of the final certificate of public convenience and necessity in April 1980. Therefore, while the federal inspector has enforcement authority over many aspects of the pipeline, the earlier approval actions for the project were performed by other federal agencies. The federal inspector must enforce stipulations and conditions required by the agencies.

CHAPTER FOUR

FINAL RECOMMENDATIONS AND CONCLUSIONS

Although DNRC is the lead agency under MEPA in preparing the EIS's for the Northern Border Pipeline, it has only limited authority on the construction of the pipeline. The project does not fall under the state's Major Facility Siting Act, so DNRC's authority as lead agency is restricted to making advisory recommendations to NBPC, federal, state, and local agencies, and private citizens concerning measures that could reduce adverse impacts of the project. The draft EIS prepared by DNRC contained 10 proposed recommendations directed toward mitigating the most important impacts of the project. Implementation of the recommendations is dependent on actions by the above parties.

This chapter contains the recommendations as they appeared in the draft, comments received, discussion, DNRC's final recommendations, and conclusions about the project based on a review of all pertinent information, including the comments on the draft.

COMMENT AND RESPONSE ON THE PROPOSED RECOMMENDATIONS

Draft Recommendation Number 1:

The Northern Border Pipeline should follow the route proposed by NBPC.

Comment:

The economic analysis contained in chapter two of the draft EIS challenges the need for the Northern Border Pipeline and weakens DNRC's support for the proposed route. (NBPC)

Response:

The route endorsement was made on the basis of a DNRC finding that the proposed route was more environmentally acceptable to Montana than an alternative route that crossed the Missouri River. The recommendation is not intended to endorse the proposed project. The recommendation need not be modified.

Draft Recommendation Number 2:

An Interagency Pipeline Task Force (IPTF), funded by Northern Border Pipeline Company, should be established to coordinate state agencies' involvement in centerline selection, review the company's final plans, enforce easement stipulations and permit conditions, and provide information on the pipeline system to state agencies and private landowners.

Comment (a):

This recommendation is completely unacceptable. An IPTF is wholly unnecessary. First, state agencies have been afforded ample opportunity to participate in the decision-making process. Second, Northern Border objects to funding a state agency to do what is already being undertaken by Northern Border, namely, the providing of information to the states and their citizens about the project. Finally, the courts and state and local agencies already provide mechanisms for the enforcement of terms and conditions, whether such be contained in private easements or public authorizations—another governmental organ for this purpose is needless. (NBPC)

Comment (b):

The proposal for establishment of an IPTF needs to be examined critically before the potential costs associated with its implementation can be justified. It is not clear why the state cannot issue and coordinate the appropriate permits and perform oversight utilizing existing administrative mechanisms. (Office of the Federal Inspector)

Comment (c):

If the IPTF for Northern Border were the same as the one for Northern Tier, it would be essential for the federal inspector to coordinate roles and responsibilities. (BLM)

Comment (d):

The subject of greatest concern in the draft EIS appears to be the proposed IPTF. Many of the objectives of the IPTF appear laudable. Designating one agency as a central contact point for the company and as a source of information and assistance to concerned citizens is an excellent idea, although it is not clear why an existing agency could not perform these functions.

One apparent problem with the IPTF as proposed is that it may lack the power necessary to achieve several of the stated goals. If the IPTF does not have authority equal to or superior to that of the agencies it deals with, it will have less than maximum effectiveness in mediating disagreements over agency jurisdiction or methodology.

The functions proposed for the IPTF, including centerline selection, final design review, quality control review, and reclamation review, all would reduce adverse impacts of the pipeline construction. (USDI)

Response:

DNRC proposed the IPTF as a method to streamline the regulatory process for siting large diameter pipelines and to improve communication between agencies, the companies, and the public because of the large number of jurisdictions crossed. In October 1979, Lieutenant Governor Ted Schwinden, as acting governor, submitted to the Office of the Federal Inspector a suggestion for federal-state coordination in siting and constructing the Northern Border pipeline, including a suggestion for a state inspector modeled after the federal inspector (Schwinden 1979). On July 30, 1980, Governor Judge signed executive order #5-80 establishing the IPTF for the Northern Tier oil pipeline. Pursuant to that order, a cooperative agreement was signed by the affected state regulatory agencies (see chapter 2).

As noted in the draft EIS, a cooperative agreement between NBPC and the state of Montana would be voluntary. Such cooperation was encouraged by the President's Decision and Report to Congress which said that, in spite of the strong federal role, state law still applied (Executive Office of the President 1977a). DNRC proposed the IPTF in the hope that NBPC would explore the concept and negotiate an agreement to the benefit of itself and the state (See Appendix C). Such an agreement would clearly establish the role of the IPTF and would not necessarily contain all the elements proposed by DNRC. With respect to the NBPC and federal inspector comments on costs of the IPTF, this also would be subject to negotiation. DNRC proposed expansion of the existing IPTF as a practical means of keeping this cost low (See Appendix C).

The federal inspector's failure to appreciate the administrative advantages of the proposed IPTF appears to be based on misunderstanding. The IPTF would perform at the state level in much the same way the federal inspector does at the federal level, on the basis of the same congressional and presidential directives regarding the Alaskan Natural Gas Transportation System. These directives concerned timely construction through interagency coordination.

The IPTF currently funded by Northern Tier does not have authority over other state agencies. Granting of such authority would require a change in existing law. The IPTF's chief function is coordination of the wide array of state and local agencies having authority over various aspects of pipeline construction. Coordination between IPTF and the federal inspector should cause no problems, especially since the federal inspector recently opened an office for the Northern Border Pipeline.

Recommendation 2 should be modified to read:

The Interagency Pipeline Task Force, developed to coordinate state agency involvement in the construction of the Northern Tier Pipeline, should be expanded by negotiated agreement to perform similar coordination for the Northern Border Pipeline, with NBPC funding its share of IPTF's work.

Draft Recommendation Number 3:

A centerline evaluation involving state and federal agencies and Northern Border Pipeline Company should be conducted so that, if necessary, the location of the centerline can be altered in some places to avoid sensitive areas (such as unstable soils, critical wildlife habitat, and riparian habitat).

Comment:

Governmental units at all levels already possess a degree of centerline control, by virtue of the Federal Energy Regulatory Commission (FERC) certificate, U.S. Department of Interior Right-of-Way Grant, and the permits to be obtained from state and local jurisdictions. However, to the extent that DNRC is

suggesting mile-by-mile control of pipeline placement, Northern Border must register its unequivocal objection. Northern Border knows of no agency, or combination of agencies with the expertise or responsibility to undertake such a task. (NBPC)

Response:

Some clarification of the proposed recommendation is necessary. First, DNRC recognizes that centerline evaluation by NBPC has proceeded and many easements have been negotiated with private landowners since the draft EIS was published. Second, the recommendation would apply to state land or on other areas where the state has regulatory jurisdiction. With these clarifications, the recommendation is not a radical departure from the current situation. A centerline selection process similar to that proposed in the draft EIS has been discussed and agreed to by federal agencies and the State of Montana (Appendix A, BLM comment). Furthermore, the Department of State Lands will require a centerline study on all state-owned lands under its jurisdiction. Centerline evaluation would not entail mile-by-mile control of pipeline placement, but would provide state assistance if relocation of the centerline on land under the jurisdiction of state agencies became necessary. Other land where such state assistance might be appropriate includes federal land where state agencies have statutory responsibility or a cooperative agreement, and private land affected by relocation of the centerline on public land, or where specifically requested by the landowner. Centerline evaluation thus would be a joint effort by the state and NBPC to avoid sensitive areas identified during right-of-way evaluation. Centerline evaluation would be one of the functions performed through the proposed IPTF, if agreed to by NBPC.

This recommendation should be modified to read:

The Department of State Lands should require that a centerline evaluation be conducted on state lands so that, if necessary, the location of the centerline can be altered to avoid sensitive areas such as unstable soils, critical wildlife habitat, and riparian habitat.

Draft Recommendation Number 4:

Northern Border Pipeline Company should make its reclamation plan more site-specific in response to data gathered during centerline evaluation. The reclamation plan should be made available to federal agencies, the Montana Department of State Lands, and private landowners before permits or easements are granted.

Comment:

NBPC is preparing a restoration plan that includes the recommendations of landowners and the requirements of governmental bodies having jurisdiction in the matter. To make this plan available before issuance of permits or the granting of easements would be a futile exercise, inasmuch as the particular local concerns could be addressed only in the most general of terms. In other words, the specifics in the plan will depend in large part upon the conditions or stipulations in the permits and easements. (NBPC)

Response:

DNRC was not referring to NBPC's final restoration plan, which is to be used after easements are negotiated, but to reclamation plans based on studies already completed, as noted by NBPC's comment on Recommendation 5. These plans could be made available before easements are negotiated. The main issue concerning this recommendation is who is to take the lead in informing landowners, both private and public, as to the results of NBPC's studies.

Most of the land to be crossed by the pipeline is privately owned. Although some restoration measures are negotiated at the time of issuance of permits or granting of easements, DNRC feels that landowners and state agencies need to be informed beforehand of the reclamation and mitigation methods NBPC is planning to use. Technical information about proper reclamation and restoration may be voluminous and difficult for the individual landowner to obtain.

This recommendation should be modified to read:

Before granting final easements, the Department of State Lands and private landowners should require that NBPC make available reclamation plans based on data gathered during its centerline evaluation.

Draft Recommendation Number 5:

A plan for compensating unavoidable adverse impacts of the Northern Border Pipeline should be developed by Northern Border Pipeline Company and the State of Montana. The Interagency Pipeline Task Force could assist in developing the plan.

Comment:

This recommendation is without foundation in law, if it calls for the establishment of an independent fund or mechanism to assure contractual and permit obligations apart from rights and remedies already available. Northern Border acknowledges its obligation to the state and its citizens, to make

whole those who suffer damage as a result of the pipeline. All together Northern Border is spending millions of dollars in environmental, biological, archaeological, and engineering studies to reduce adverse impacts. It is unclear what additional ills DNRC perceives would be remedied by this recommendation. (NBPC)

Response:

This recommendation cannot be fulfilled without NBPC's agreement. However, the concept has worked in other cases where such voluntary agreements have been tried (DNRC 1980a). The use of the word "plan" in the recommendation may have implied a more ambitious proposal than was intended. First, the intent of the recommendation is to help ensure that NBPC considers losses to both public and private resources. Some unavoidable losses will occur simply because they may be too costly to mitigate. DNRC considers adverse impacts to public resources, such as losses in critical wildlife habitat resulting from construction, worthy of compensation. None of these impacts was identified during DNRC's study of NBPC's proposal, but specific cases suitable for compensation may be identified during the centerline evaluation and construction monitoring required by state agencies and by NBPC. The IPTF, if expanded to include Northern Border, could coordinate these duties for state agencies.

This recommendation should be modified to read:

NBPC and the State of Montana should develop a voluntary mechanism to provide compensation for unavoidable adverse impacts of the Northern Border Pipeline.

Draft Recommendation Number 6:

Northern Border Pipeline Company should be required to: (a) obtain special fuel allocations from the U.S. Department of Energy or from Montana's fuel set-aside program for pipeline construction and (b) ensure that operation of construction equipment and travel by nonlocal construction workers will not create fuel shortages in Montana.

Comment:

Should the fuel supply situation warrant action, Northern Border will apply to the Department of Energy for a special fuel allotment to provide the fuel necessary to avoid adverse consequences to the citizens of Montana. (NBPC)

Response:

This recommendation should be modified to read:

If fuel supplies are short, NBPC should: (a) apply to the U.S. Department of Energy to obtain special fuel allocations for pipeline construction and (b) ensure that operation of construction equipment and travel by nonlocal construction workers would not create fuel shortages in Montana.

Draft Recommendation Number 7:

Construction of the Northern Border and Northern Tier pipelines should be coordinated to ensure that they do not occur through the same area simultaneously. If this cannot be avoided, the pipeline companies should comply with special provisions to reduce potential impacts.

Comment:

Northern Border does not believe construction of its pipeline will conflict with that of Northern Tier. However, Northern Border will continue to consult with Northern Tier on ways to reduce potential adverse impacts if simultaneous construction should occur. (NBPC)

Response:

The IPTF would be working with Northern Tier and local communities to minimize the impacts if simultaneous construction were to occur. Such coordination would be enhanced if NBPC also were participating in the IPTF. Special provisions to reduce impacts would be developed when construction schedules were known.

This recommendation should be modified to read:

Construction of the Northern Border and Northern Tier pipelines should be coordinated to ensure that they do not occur through the same area simultaneously. If this cannot be avoided, the pipeline companies should work with state agencies to develop special provisions to reduce potential impacts.

Draft Recommendation Number 8:

The width of the construction right-of-way should be reduced from the proposed 30.5 m (100 ft) to 27 m (90 ft).

Comment:

The reduction of the construction right-of-way width from 30.5 m to 27.4 m (100 ft to 90 ft) is, in most instances, impractical. Northern Border's construction equipment would need the entire 30.5 m (100 ft) to ensure that construction could be undertaken in a smooth and expeditious manner. An arbitrary narrowing of the construction right-of-way could result in greater environmental impacts because the additional restriction would limit flexibility of operation and, hence, slow the pace of construction (NBPC).

Response:

DNRC has considerable evidence to support its conclusion that a 30.5 m (100 ft) construction right-of-way is excessive, and that a width of 27.4 m (90 ft) is generally adequate for speedy cross-country construction on the flat or rolling terrain found along most of the Northern Border route through Montana (draft EIS pgs. 24-27). The evidence suggests that a 23 m (75 ft) right-of-way width could accommodate an entire construction spread including a passing lane and separate piles for segregation of topsoils and subsoils. In areas where soils would not be segregated, a 20 m (65 ft) right-of-way might be sufficient for construction across flat terrain (DNRC 1979). However, the evidence also indicates that these narrower widths could restrict construction operations. Consequently, DNRC proposed use of a 27.4 m (90 ft) right-of-way.

This recommendation should be modified to read:

When granting easements, the Department of State Lands and private landowners should consider granting a construction right-of-way 27.4 m (90 ft) wide rather than the 30.5 m (100 ft) proposed by NBPC.

Draft Recommendation Number 9:

When granting easements, private landowners, the Montana Department of State Lands, and federal agencies should consider: (a) reducing the potential for wind erosion on the right-of-way by requesting that soil surfaces be contoured or ridged, wind barriers erected, and exposed soils revegetated, (b) requesting double trenching of deep, fertile topsoils and saline or sodic subsoils, and (c) locating the centerline where it avoids special use sites (important wildlife habitat, nesting sites, spawning sites).

Comment:

NBPC has no objection to this recommendation.

Response:

The recommendation above is, in DNRC's view, an important element in the state's mitigating approach. This recommendation need not be modified.

Draft Recommendation Number 10:

When considering permit applications, Montana Conservation Districts, the U.S. Army Corps of Engineers, and the Montana Departments of State Lands and Fish, Wildlife, and Parks should consider: (a) requiring alternative river crossing techniques (such as aerial and directionally drilled) and (b) permitting waterway crossings to be constructed only during periods least critical to fisheries.

Comments:

NBPC's environmental and engineering studies show that trenched crossings of streams and rivers are better than aerial, directionally drilled, or other alternative crossings. Aerial crossings are vulnerable to damage and are bad aesthetically. (NBPC)

Response:

Directionally drilled crossings are environmentally desirable and technically feasible where subsurface materials are suitable. Furthermore, the pipe is safer at directionally drilled crossings than at trenched crossings. The advantages of directional drilling are discussed on page 34 of the draft EIS. The disadvantages of higher costs would be weighed against the environmental advantages when the studies were completed. Directionally drilled crossings should be seriously considered for the Missouri and Milk rivers, if the southern route becomes necessary.

DNRC agrees with NBPC about the disadvantages of the several techniques for aerial crossings, but stands by its conclusion that alternative crossing techniques can minimize environmental damage to the river bed and should be further evaluated by NBPC and permitting agencies on a case-by-case basis.

FINAL RECOMMENDATIONS

DNRC finds that recommendations 1, 9, and 10 proposed in the draft EIS need not be modified. Recommendations 2 through 8 are modified as noted above. Implementation of these recommendation depends upon voluntary actions by NBPC, state and federal agencies, and private landowners.

CONCLUSIONS

The DNRC received no substantive critique of its economic analysis of the Northern Border Pipeline and thus reiterates its conclusion that conservation could balance natural gas supply and demand at a lower cost than the Alaskan Natural Gas Transportation System.

Construction of the Northern Border Pipeline through Montana would have desirable and undesirable impacts over both short and long periods. The most pronounced social, economic and environmental impacts would occur during pipeline construction. The severity of these impacts and the time over which they would occur would depend upon mitigating measures employed during construction and upon the success of reclamation performed by NBPC or governmental agencies.

The environmental protection procedures specified by federal legislation for the Northern Border Pipeline will help mitigate environmental impacts on federal land. Impacts would be reduced if NBPC were to follow these procedures on private land, because most of the land along the proposed route is privately owned. Implementation of DNRC's final recommendations also would mitigate the adverse impacts described in the draft EIS.

Comments on DNRC's draft EIS along with further development of NBPC's construction plans have led to a better understanding of the potential impacts discussed in the draft EIS. It is now known that (1) impacts pertaining to the alternative routes south of the Missouri River, some of the most severe described in the draft EIS, are not likely to occur because NBPC now plans to use the proposed route (discussed below), (2) there should be no fuel shortages during construction if NBPC obtains special fuel allocations from the DOE, (3) roads would not necessarily be in worse condition after the construction period (as stated on p. 98 of the draft and in chapter 1 of this document), especially if NBPC cooperated with local officials, and (4) housing shortages and public service impacts should be reduced by NBPC's use of construction work camps.

Interest in mitigating potential impacts of construction on community services and in constructing the pipeline more efficiently prompted NBPC to plan two work camps to house construction workers. If the company followed through on its plans for work camps or supplemental housing for the 450-500 workers, most of the housing impacts discussed in the draft EIS would be avoided. Camps are tentatively planned near Culbertson and at the Valley Industrial Park near Glasgow. The associated problems with water supplies, and disposal of sewage and garbage at these sites should be minimal if NBPC continues to cooperate with county and state health officials in the design and operation of the camps. Construction contractors would determine how extensive the camps would be and what services to provide.

Comments and changing circumstances since publication of the draft EIS led the DNRC to include further information on some aspects of the pipeline project. Included in such information was a discussion of the route, parts of which have been altered or finalized since publication of the draft. First, the Fort Peck Tribal Council and NBPC signed an agreement allowing the pipeline to cross the reservation. The proposed route was modified slightly to follow an existing road across the Bitter Creek Wilderness Study Area. The Bitter Creek area impacts discussed in the draft should thus be reduced. Another new element is the possible need for additional analysis if a route change in North Dakota changed the route in Montana. A new route proposal could require a supplement to this EIS to analyze consequences of the change.

DNRC's desire for a mechanism to help minimize pipeline impacts and streamline the permitting process led to the recommendation for an Interagency Pipeline Task Force (IPTF). The IPTF would provide information to state agencies during the performance of regulatory duties associated with evaluation of the pipeline. A similar effort is underway for the Northern Tier Pipeline and DNRC believes IPTF would benefit the state and the company during construction of the Northern Border Pipeline. Application of IPTF to Northern Border is contingent upon a voluntary funding agreement between Montana and NBPC.

The Northern Border Pipeline could cause secondary impacts in that it might encourage the construction of coal gasification plants. The exact role the pipeline might play in future coal gasification in eastern Montana is unclear, although companies proposing construction of synthetic natural gas facilities are known to be interested in using Northern Border to transport their products. The potential social, economic and environmental impacts of gasification would be similar to other major energy developments, but would be more pronounced in both the short and long term and also would introduce other impacts, such as the health and environmental dangers created by hazardous substances. Any commercial gasification project would require an extensive environmental analysis under the Major Facility Siting Act and the Montana Environmental Policy Act.

APPENDIX A

COMMENTATORS AND COMMENTS ON THE DRAFT EIS

Organizations, federal and state agencies, and individuals submitted comments to DNRC concerning either the Northern Border Pipeline or the draft EIS. Some of the written comments were on comment sheets passed out during the public hearings and the rest were letters. Comments on the EIS were copied and included in this appendix. Comments not pertaining to the draft EIS were not reproduced.

LIST OF COMMENTATORS

A. Landowners affected by the project:

Paul E. Alisch
Culbertson

Carsten Beck
Culbertson

Ralph Crisman
Bainville

Donald Dahling
Brockton

Peter Dethman
Brockton

Dean Harmon
Bainville

David W. Harmon
Bainville

Jim & Dorothy Larson
Nashua

Robert P. Wilson
Bainville

B. Individuals representing an organization:

Orrin Fassin, Soil Conservation Service
Richland

Elenore Gustafson
Wolf Point

Elven Haugen, Bureau of Indian Affiars
Poplar

Paul K. Kropp, State Representative District 5
Malta

Archie Kuntz, Kenco Refining, Inc.
Wolf Point

Nick Pankratz, Secretary,
Northern Electric Coop.
Opheim

Nancy L. Rockwell, North Dakota
Natural Resources Council
Bismarck, North Dakota

C. Interested Parties:

Edward M. Dobson
Billings

John Gallinger
Billings

Edwin Johnston
Malta

Lynn Kelly
Malta

D. Montana departments or agencies:

Department of State Lands
Helena

Historic Preservation Office
Montana Historical Society
Helena

E. Federal departments or agencies:

Office of the Federal Inspector
Alaska Natural Gas Transportation System
Washington, D.C.

Bureau of Indian Affairs
U.S. Department of the Interior
Billings

Bureau of Land Management
U.S. Department of the Interior
Billings

Soil Conservation Service
U.S. Department of Agriculture
Bozeman

U.S. Department of Interior
Office of the Secretary
Washington, D.C.

F. Northern Border Pipeline Company sent two responses:

1. Comments on the draft EIS (August 26).
2. Responses to the comments (October 8).

NBPC LETTER 1

3223 Dodge Street
Omaha, Nebraska 68102
Telephone (402) 348 4085

Northern Border Pipeline Company

RECEIVED
SEP 02 1980
MONT. DEPT. of NATURAL RESOURCES & CONSERVATION

August 26, 1980

Project Manager
Northern Border EIS
Department of Natural
Resources & Conservation
32 South Ewing
Helena, Montana 59601

Re: Northern Border Draft Environmental Impact Statement

Dear Mr. Stolen:

Northern Border Pipeline Company (Northern Border), in accordance with the notice issued by the Montana Department of Natural Resources and Conservation (DNRC) on July 30, 1980, here provides its comments to the subject Draft Environmental Impact Statement (DEIS) made public by the DNRC on that date.

By these comments, Northern Border neither waives nor abandons its jurisdictional complaint that preparation of an environmental impact statement by the State of Montana is in conflict with Section 10(c)(3) of the Alaska Natural Gas Transportation Act (ANGTA), 15 U.S.C. §719h. Section 10(c)(3) provides:

> The enactment of a joint resolution under section 8 approving the decision of the President shall be conclusive as to the legal and factual sufficiency of the environmental impact statements submitted by the President relative to the approved transportation system and no court shall have jurisdiction to consider questions respecting the sufficiency of such statements under the National Environmental Policy Act of 1969.

The majority of Northern Border's following comments address the enumerated conclusions and recommendations contained in the DEIS Summary. The remainder of the comments are offered to correct a number of factual misstatements contained within the body of the text.

I.

DNRC Recommendation No. 1.

Northern Border agrees with the DNRC that the proposed 42-inch diameter natural gas pipeline "should follow the route proposed by Northern Border Pipeline Company. However, Northern Border does find objectionable and without merit the economic analysis contained in Chapter Two of the DEIS, which analysis appears to weaken DNRC's support for Northern Border's route.

Both the selection of the route and the determination of need for the construction of the Northern Border pipeline, the eastern leg of the Alaska Natural Gas Transportation System, have been determined for all purposes by the President and Congress of the United States, and , more particularly, by the Federal Energy Regulatory Commission (FERC) in exercise of its jurisdiction under the ANGTA and the Natural Gas Act, 15 U.S.C. §§717, et seq. Therefore, Chapter Two of the DEIS, insofar as it contains conclusions challenging such determinations, stands as an anomaly without the support of fact and law and, as such, is unacceptable to Northern Border.

In further support of the position Northern Border is taking with respect to this Recommendation, Northern Border describes below the unique federal selection and authorization process that has taken place to date.

By issuance of its certificate order of public convenience and necessity dated April 28, 1980 (Docket No. CP78-124), the FERC took the final step in the long process of selecting and designating the route to be used by Northern Border. The process first began in 1974, when Northern Border, as a participant in the Arctic Gas Study Group, submitted to the then Federal Power Commission (FPC) its proposal to build the eastern leg facilities. Along with proposals submitted by El Paso Alaska Company and Alcan Pipeline Company, which latter application also relied upon Northern Border with respect to construction and operation of the eastern leg, the Arctic Gas application was the subject of extended FPC hearings. During the hearings, however, and in response to a mounting national awareness of the significance of the vast energy resources in the Prudhoe Bay area of Alaska to meet the urgent need for natural gas in the contiguous states, Congress enacted the ANGTA with the purpose of expediting the construction of the ANGTS. Thereafter, Judge Litt's Initial Decision formed the basis for the Federal Power Commission's Recommendation to the President, both of which recommended reliance upon Northern Border to construct the eastern leg along with the route shown in Northern Border's exhibits and generally depicted and described in the Initial Decision and Recommendation.

Pursuant to ANGTA, the President undertook a review of, inter alia, the Federal Power Commission's Recommendation, the memorandum and reports of the Council on Environmental Quality, including the results of hearings held by that agency with respect to the Commission's Recommendation, documents, studies and reports required by the National Environmental Protection Act (NEPA) with respect to the environmental impact of the project and other material and views expressed by various state and federal agencies and private groups in order to make his recommendation to Congress as to which proposal, if any, to approve. The President recommended approval of the Alcan Pipeline Company-Northern Border route and proposal. As required by ANGTA, the President designated Northern Border to build and operate the eastern leg along the route proposed and approved. The Congress unanimously concurred in the President's choice of the Northern Border route and proposal.

A primary focus throughout the various stages of governmental review was the route which the pipeline would take. The route contained in Northern Border's initial proposal was the subject of an Environmental Impact Statement prepared by the Department of the Interior pursuant to NEPA. The route was thoroughly reviewed with full opportunity for participation by all interested parties, including Montana. In its principal Recommendation to the President, the FPC, as it was specifically mandated to do by ANGTA, designated the route finally settled upon after full consideration of both environmental and economic factors.

The President, in carrying out his obligations under ANGTA, likewise gave full consideration to the appropriate route of the pipeline from its origin in Alaska to its termination in the lower 48 states. Pursuant to §7(d) of ANGTA, he consulted with various state officials concerning all aspects of his decision, including route selection, so that particular state interests would be reflected in his decision. At the conclusion of the consideration process, and again pursuant to the specific demand of ANGTA in §7(a)(4)(A), the President in his decision particularly described the route of the system for which he sought Congressional approval. With subsequent Congressional approval and final certification by FERC, the route for Northern Boroer's eastern leg pipeline was clearly established.

While ANGTA provided for expeditious action with respect to the ANGTS, it did not obviate the need for Northern Border to again come before the FERC to secure a certificate of public convenience and necessity pursuant to the Natural Gas Act. Thus, hearings were held during the fall and winter of 1979 and the spring of 1980 to examine, inter alia, the route, the environmental and cost impacts of construction and the method of financing. The April 28, 1980 certificate order requires Northern

Border to report promptly the dates (1) of initiation and completion of construction and (2) commencement of deliveries. Consistent with the purposes of ANGTA, the FERC also ordered that the construction of the eastern leg facilities "shall be undertaken. . . within one year from the date of this order," i.e., not later than April 28, 1981.

The result of this process is that Northern Border now has an obligation imposed upon it by the Commission, at the behest of Congress and the President, to commence construction in the next nine months to build the eastern leg along the route as federally authorized, and none other.

DNRC Recommendation No. 2.

Northern Border finds this recommendation completely unacceptable. An Interagency Pipeline Task Force is wholly unnecessary. First, state agencies have been afforded ample opportunity to participate in the decision making process, as outlined above. Second, Northern Border objects to funding a state agency to do what is already being undertaken by Northern Border, namely, the providing of information to the states and their citizens about the project. Finally, the courts and state and local agencies already provide mechanisms for the enforcement of terms and conditions, whether such be contained in private easements or public authorizations--another governmental organ for this purpose is needless.

DNRC Recommendation No. 3.

By virtue of the FERC certificate, U.S. Department of the Interior Right-of-Way Grant, and the various crossing permits to be obtained from state and local jurisdictions, governmental units at all levels already possess a degree of centerline control. To the extent, however, that DNRC is suggesting mile-by-mile control of pipeline placement, Northern Border must register its unequivocal objection. Northern Border knows of no agency, nor combination of agencies, vested with the expertise or responsibility to undertake such task.

DNRC Recommendation No. 4.

Northern Border is preparing a restoration plan that includes the recommendations of landowners and the requirements of governmental bodies having jurisdiction in the matter. To make such plan available before issuance of permits or the granting of easements would be a futile exercise, inasmuch as the particular local concerns could be addressed only in the most general of terms. The permits and the easements, in other words, help to define the contents of the plan.

DNRC Recommendation No. 5.

This Recommendation is without foundation in law, if it calls for the establishment of an independent fund or mechanism to assure contractual and permit obligations apart from rights and remedies already available. Northern Border acknowledges its obligation to the state and its citizens, to make whole those who suffer damage as a result of the pipeline. And, Northern Border is expending millions of dollars in environmental, biological, archaeological and engineering studies to reduce adverse impacts. It is unclear what additional ills DNRC perceives will be remedied by this Recommendation.

DNRC Recommendation No. 6.

Should the fuel supply situation warrant action, Northern Border will apply to the Department of Energy for a special fuel allotment to provide necessary fuel to the project in avoidance of adverse consequences to the citizens of Montana.

DNRC Recommendation No. 7.

Northern Border does not believe construction of its pipeline will conflict with that of Northern Tier. However, Northern Border will continue to explore with Northern Tier ways to reduce potential adverse impacts resulting from simultaneous construction.

DNRC Recommendation No. 8.

The reduction of the construction right-of-way width from 100 feet to 90 feet is, in most instances, impractical. Northern Border's construction equipment will need the entire 100 feet to assure that construction can be undertaken in a smooth and expeditious manner. An arbitrary narrowing of the construction right-of-way may result in greater environmental impacts because the additional restriction will limit flexibility of operation and, hence, slow the pace of construction.

DNRC Recommendation No. 9.

Northern Border has no objection to this Recommendation.

DNRC Recommendation No. 10.

It is recognized that DNRC is asking the agencies entrusted with stream and river crossing jurisdiction to give due consideration to the environmental impacts of the crossings. Northern

Border has no basic objection to this. Northern Border, however, does believe that its extensive environmental and engineering studies will provide ample support for the crossing designs submitted to those agencies, and represent the most environmentally sound construction techniques. With respect to aerial crossings, Northern Border points out that such are subject to outside induced mechanical damage, will not significantly reduce construction and excavation impacts, and are aesthetically disadvantageous.

II.

In addition to the foregoing, Northern Border calls to the DNRC's attention the below listed inaccuracies:

Chapter 1:

Page 7 - Reference to the proposed route as being 1.0 mile wide is incorrect; the permanent easement for the pipeline will be 54 feet in width.

Chapter 3:

Page 23 - There is no evidence to suggest probable seismic activity along the Brocton-Froid on Hinsdale Faults that is significant enough to seriously threaten pipeline integrity.

Page 24 - Pipeline Design: Coal tar is not proposed as a coating material.

Page 28 - Figure 2-7: The condition on rock removal in the surface 12 inches applies primarily to croplands where rock is excavated and brought to the surface from depths greater than which it occurred orignally.

Page 38 - Construction Camps: Northern Border has planned one camp in Montana near Culbertson, in addition to using Valley Industrial Park near Glasgow due to the limited housing available.

Page 39 - Equipment, Facility, and Right-of-Way Maintenance: The limited extent of trees and brush along the route would require minimal maintenance, low growing shrubs could normally be allowed to grow over the right-of-way in areas for wildlife habitat where they occurred originally.

Chapter 4:

Page 45-47 - Long-Term Impacts: The statement that all maintenance personnel are expected to live in North Dakota is not true, however, a regional headquarters will be located there.

Population Impacts: The statement based on previous reports that 5 percent of overland construction jobs would go to local

residents contrasts with the 40 percent estimate contained in the Northern Border and DOE EIS. In addition, 40 construction jobs have been committed for the Fort Peck Tribes alone.

Page 51-52 - Public Service Impact: Impacts to public roads and the associated financial burden upon the state and counties is overstated. Northern Border will be paying taxes and special load permit fees and will repair damage where use exceeds normal "wear and tear".

Page 63 - Conclusions: The pipeline right-of-way will cause no appreciable long-term impacts to undulating rangelands and dry croplands, as preexisting contours will be restored and revegetation established.

Page 70 - Route Comparison: Vehicle use of the right-of-way by Northern Border during normal operations is not anticipated, nor is it necessary.

Page 74 - Soil Compaction: The analysis of impacts ignores the fact that Northern Border will use chisel or cultivating type of equipment prior to final seed bed preparation to eliminate compaction.

Page 75 - Horizon Mixing: The reference to Brunsvold (1979) leaves an incorrect impression. Soil interpretations were done for all areas and double trenching specified where subsoil characteristics were significantly limiting compared to the surface soils. Examples include gravels and dense clays. The interpretations were not restricted to public lands alone. As stated, the individual landowner does have the right to require topsoil segregation.

Page 75 - Soil subsidence over the Pipeline Trench: Northern Border will perform additional maintenance and restoration work in areas where excessive subsidence or induced erosion occurs.

Page 77 - Soil Temperatures: Northern Border does not anticipate that thawing of the surface or induced snow melt and runoff will occur.

Page 78 - Growth of Weeds, Herbicides: Northern Border will control noxious weeks in cooperation with the County Weed Control Boards and the landowners.

Page 79 - Conclusions: Northern Border's draft reclamation plan referred to here is the Rangeland Restoration Plan which focuses on revegetation of rangelands (native pasture). Comprehensive Erosion Control and Restoration Specifications are being completed. DNRC's statement that Northern Border's emphasis on establishing revegetation where little or none occurred originally is exaggerated. These types of areas are restricted along the route to

several steep slopes where additional erosion control measures will be implemented.

Page 82 - Surface Water: Coal tar will not be used as a coating material, hence, its effect on water quality is not a consideration.

Page 89 - Proposed Route: High standing bank vegetation does not occur at the proposed Rock Creek Crossing. Northern Border will initiate special habitat restoration in critical areas where required according to the Project Commitments provided to DNRC.

Respectfully submitted,

NORTHERN BORDER PIPELINE COMPANY

By _____
Thomas M. Tiehen
Its Attorney

TMT:acm

NBPC LETTER 2

2223 Dodge Street
Omaha, Nebraska 68102
Telephone (402) 348-4085

Northern Border Pipeline Company

October 8, 1980

Mr. Paul Stolen
Project Manager
Northern Border EIS
Facility Siting Division
Department of Natural
Resources and Conservation
32 South Ewing
Helena, Montana 59601

Re: Environmental Impact Statement
Northern Border Pipeline Company

Dear Mr. Stolen:

We wish to thank you for the opportunity you have provided the Northern Border Pipeline Company to respond to comments directed to your agency concerning the Environmental Impact Statement proposed by the DNRC for final publication.

We reiterate and affirm our previous comments to the DNRC and the objections raised therein. In addition, we address here certain issues raised during the public hearings held on August 19, 20 and 21, 1980, and in your letter of September 5, 1980.

1. Construction Camp Near Culbertson and Related Impacts (Ref: Letter to K. Frantzen from P. Stolen, September 5, 1980; Comments from E. Gustafson.)

Northern Border Pipeline Company has conducted an initial inventory in the project area to determine the availability of temporary housing units, including motel and hotel accommodations, rooming houses, mobile home pads, and other rental units within commuting distance of the proposed pipeline. This inventory has helped determine vacancy rates at various times of the year.

Based on the inventory, Northern Border estimates that its contractors may require some supplemental housing for approximately 450-500 workers. Whether this task is accomplished by utilizing a construction camp or some less extensive housing facilities, is a determination ultimately to be made by the construction contractor. In any event, any housing facility constructed will be promptly dismantled upon completion of the work, and any sites so utilized will be restored as near as practicable to their original conditions. Waste and sewage disposal will be undertaken according to applicable law, using, as necessary, authorized disposal sites and facilities.

Northern has been evaluating the feasibility of using a construction camp near Culbertson (Roosevelt County) for housing of approximately 500 workers along the eastern spread.

Goods and services needed for the everyday operation of the camp would be provided by the camp operator. It is expected that supplies would largely be purchased from wholesale establishments, thus impacting local retail supplies minimally. The local impact of the purchase of goods and services is expected to be short-term and minor with a positive effect on the local economy.

Northern Border Pipeline Company does not anticipate problems related to the need for additional law enforcement personnel. However, Northern Border is committed to working with local jurisdictional agencies to alleviate any problems that may arise.

If a temporary construction camp will be utilized near Culbertson, it is anticipated that water for domestic use would be provided by hauling it from an existing approved source which has sufficient reserve to provide the volumes needed. The volumes of water needed to fulfill the requirements of the camp are estimated to be 18,000 gallons per day. Initial evaluations indicate that Culbertson is a potential source for the needed water. Sewage would be disposed of by either establishing an approved sewage disposal system or hauling of sewage from holding tanks at the camp to existing approved disposal facilities with adequate additional capacity to meet these temporary needs. The expected volume of sewage to be disposed of is also estimated to be 18,000 gallons per day. The final water distribution and sewage disposal plans will meet the requirements of the Montana Department of Health and Environmental Sciences.

It is planned that solid waste that is not recoverable or recyclable would be disposed of by the contractor at existing permitted landfills. Should existing landfills be insufficient, Northern Border would apply for permits to open a sanitary landfill.

2. Restoration, Grazing Control (Ref: Letter from G. Loomis, Area Director, BIA; Letter from V. Haderlie, State Conservationist)

Northern Border recognizes that excessive grazing on newly established stands of grass may require some form of grazing control for two growing seasons to ensure successful establishment. The available options for grazing control include:

(1) Providing temporary fencing, where practical.

(2) Arranging for year long deferred grazing.

(3) Arranging for winter grazing only.

Where necessary, Northern Border will employ one of these measures subject to making the arrangements on a case-by-case basis with the individual landowner.

3. Erosion Control (Ref: Letter from V. Haderlie, State Conservationist; Comments by R. Crisman; Comments by D. Harmon)

Northern Border has conducted soils interpretations based upon published and unpublished soil survey information. Areas of sandy soils subject to wind erosion extend along approximately 16 miles of the proposed route in Roosevelt County. In these areas, slate or snow fences may be needed during construction to control excessive wind erosion. In addition, mulching will be utilized with the planting of a seed mixture composed of species adapted to sandy soils and droughty conditions.

Northern Border also recognizes that certain slopes may require measures beyond standard revegetation to control excessive water erosion. To these situations transverse berms or other erosion control structures will be installed. Whereas steep slopes were avoided wherever possible, some areas could not be practically avoided in selecting the route, particularly those breaks associated with drainage.

Northern Border has prepared Erosion, Sedimentation Control, and Restoration Plans and procedures which will be implemented based upon actually encountered field conditions. These plans, of course, are subject to approval by the federal Office of the Federal Inspector.

4. Alternative Routing (Ref: Letter from N. Rockwell, North Dakota Natural Resources Council)

The proposed route and alternatives evaluated in the Montana EIS are based upon proposals Northern Border has filed with the Federal Energy Regulatory Commission (FERC). The alternative routing referred to therein has been proposed recently by the North Dakota Public Service Commission based upon the initiative of the North Dakota Game and Fish Department. The suggested alternative routing lacks approval by the federal government, particularly by the FERC, and, therefore, is not an appropriate subject for inclusion in the Montana EIS.

5. Effect on Stimulating Coal Development (Ref: Letter from E. Dobson)

While the potential exists at some future date for the Northern Border pipeline to carry synthetic natural gas from coal conversion facilities, subject to FERC approval, the project, as identified by the Alaska Natural Gas Transportation Act and the President's Decision and Report to Congress, is for the purpose of transporting Alaskan and Canadian natural gas. At best, it would be speculative to conduct an analysis under MEPA of the

effects the Northern Border project would have on future coal development in northeast Montana. Such would have no substantive effect on the conclusions made in the EIS. Given that coal conversion in northeast Montana is economically feasible, it could be expected to occur regardless of whether synthetic natural gas would be subject to transportation in the Northern Border pipeline.

6. Local Security Undertakings (Ref: Letter to K. Frantzen from P. Stolen, September 5, 1980; Comments from E. Gustafson)

Northern Border does not anticipate problems related to the need for additional law enforcement personnel in localities along the pipeline route. Northern Border is committed to working with local law enforcement agencies.

A security consultant has been engaged by Northern Border to assist in the analysis of law enforcement and security problems relating to maintenance of construction sites, pipe storage sites, warehouses, and work camps. This consultant also is being used to survey existing and future resources of the affected local agencies, and to provide an estimate of what, if any, supplemental security measures should be undertaken by Northern Border.

State, local and tribal law enforcement agencies have been surveyed in each of the Montana counties to be crossed by the pipeline. The survey results indicate that the Montana communities, in general, have had good experience with large migratory work forces in the past, and are well-equipped to deal with Northern Border's project demands.

Nevertheless, recognizing that a high concentration of construction personnel at temporary locations does present security problems additional to those otherwise present, Northern Border is reviewing procedures for added funding, communications, and enchancement of public relations to assure minimization of interference with the safety and welfare of Montana citizens. In addition, Northern Border's pipeline contractors and their employees will be briefed on and will be required to obey worksite rules forbidding environmentally detrimental activities.

7. Tribal Agreement (Ref: Letter to K. Frantzen from P. Stolen, September 5, 1980)

Northern Border is providing the Montana DNRC with a copy of the requested tribal agreement. However, we respectfully request that the agreement not be included in the final EIS, because there is nothing contained in the agreement that would

Mr. Paul Stolen
October 8, 1980
Page Five

assist the DNRC's analysis of the environmental compatibility of Northern Border's project.

Respectfully submitted,

NORTHERN BORDER PIPELINE COMPANY

By Thomas M. Tiehen
Thomas M. Tiehen
Counsel

TMT:acm

DEPARTMENT OF NATURAL RESOURCES
AND CONSERVATION
FACILITY SITING DIVISION

Rec'd at Wolf Pt. hearing

THOMAS L. JUDGE, GOVERNOR — 32 SOUTH EWING
STATE OF MONTANA
(406) 449-4600 — HELENA, MONTANA 59601

PUBLIC MEETING COMMENT SHEET

NAME: Clenore Mustafson, R S
ADDRESS: P.O. Box 726 Wolf Point
REPRESENTING: District Sanitarian
(For example, yourself or an organization)

Do you wish to receive the final EIS? yes

Are you directly affected by the proposed project, and if so, how?
impact on the health + sanitation in the Roosevelt County; work camps etc

Do you favor or oppose the project, or do you have any opinions on particular parts of the project?

Other:
1. more coverage in impact statement on work camps - where they will be and water + sewer impact from them.
2) the effect of influx of people on law enforcement, garbage collection, storm water + sewer facilities, etc in specific communities.

THE FEDERAL INSPECTOR
ALASKA NATURAL GAS TRANSPORTATION SYSTEM
ROOM 2413 POST OFFICE BUILDING
1200 PENNSYLVANIA AVENUE
WASHINGTON D C 20044

28 AUG 1980

Mr. Ted J. Ooney
Director
Department of Natural Resources
and Conservation
32 South Ewing
Helena, Montana 59601

Dear Mr. Doney:

This letter is in response to the Draft Environmental Impact Statement on the Proposed Northern Border Pipeline which we received on August 6, 1980. Per a telephone request from Paul Stolen of your staff to Audrey Morton of my staff, copies of the Draft EIS were forwarded to interested Agency Authorized Officers on August 8, 1980. No comments have been received; however, the Bureau of Land Management, Montana, and the Environmental Protection Agency, Denver, may provide comments under separate cover.

Because time is short, we have concentrated on certain general matters. We want to bring to your attention a few statements in the Draft which are incorrect or misleading with respect to the OFI or the entire Alaska Natural Gas Transportation System (ANGTS). These statements are discussed in the enclosure.

The proposal for establishment of an Interagency Pipeline Task Force is one that needs to be examined critically before the potential costs associated with its implementation can be justified. It is not clear why the state cannot issue and coordinate the appropriate permits and perform oversight utilizing existing administrative mechanisms.

The United States has reaffirmed its endorsement of ANGTS in Senate Concurrent Resolution 104 and the Canadian Government has approved prebuild. Therefore, timely completion of the Eastern Leg of the ANGTS Project is of great significance. Our efforts are being directed toward assuring timely completion of the proposed construction schedule while insuring quality construction, cost control, safety, and environmental protection. These objectives with respect to the Eastern Leg will be directed by our office in Omaha, Nebraska. That office is currently being staffed in preparation for construction activities beginning this month. In order for the project to stay on schedule, it is important that the state complete its remaining actions in a timely manner so that the project can move forward in Montana.

Sincerely,

John T. Rhett
John T. Rhett
Federal Inspector

Enclosure

Enclosure I

COMMENTS ON MONTANA DEIS

On page 10 of the Draft the estimated cost of the entire ANGTS system is discussed. The President's Decision with respect to ANGTS was based on an estimated cost of $12.4 billion dollars (1977 dollars) (see page 162 footnote C). It should be pointed out that the $23 billion figure used includes the gas conditioning plant and gathering facilities which the 12.4 figure does not. Therefore, it is misleading to compare the two figures to arrive at a percent increase in cost.

On page 14 of the Draft the statement "current plans call for completion of the entire system two years after the Northern Border Segment is finished" is incorrect. Current plans are for completion of the entire system by the end of the 1985 construction season. Phase II of the Eastern Leg is scheduled for construction during 1985.

There are several locations in the Draft where OFI responsibilites are attributed to the Federal Energy Regulatory Commission (pages 38, 39, 107). The various plans referred to must be approved by the Federal Inspector. All functions insofar as they relate to enforcement of Federal statutes or regulations were transferred to the Federal Inspector under Reorganization Plan No. 1 of 1979.

APPENDIX B

DRAFT EIS CORRECTIONS

Page	
35	The "stream bottom" label on Figure 9 should read "stream bottom at maximum scour."
73	In Table 30, the vegetation type "Deciduous coulees" should have a recovery rating of "4."
77	The word "surface" should be deleted from line 5, paragraph 5, of the left hand column.
77	The reference on line 15, paragraph 4, right column should be spelled "Driear."
77	The gas temperature conversions in paragraph 4, line 9, left column should read "from 2 to 32 °C (35 to 90 °F)" rather than "24 to 32 °C." The next line should read "from 13 to 43 °C (55 to 110 °F)" rather than "3 to 43 °C."
80	The reference on line 4, paragraph 1, left column should read "Driear."
102	The second sentence in the section "Depth of pipe burial at waterway crossings," right column, should read "below the estimated scour depth" instead of "below river bottom."
130	The reference in Bibliography to "Drier, R. 1980", should read "Driear, R. 1980".
131	"Mishan 1976" is cited on page 10 but is not in the bibliography. That citation should read: "Mishan, E.G. 1976. *Cost benefit analysis*. New York: Praeger Publishing."
138	In the Acknowledgements under General Assistance, the last citation is incorrect in two ways. First, the spelling of "Gene Myrtle" should be "E. E. (Gene) Mertl." Second, Gene Mertl is Engineering Coordinator for the Northern Border Pipeline Company.

APPENDIX C
CORRESPONDENCE

DEPARTMENT OF NATURAL RESOURCES
AND CONSERVATION

THOMAS L. JUDGE, GOVERNOR

32 SOUTH EWING

STATE OF MONTANA

(406) 449-3712

HELENA, MONTANA 59601

October 30, 1980

John Rhett, Federal Inspector
Alaska Natural Gas Transportation System
Post Office Building, Rm. 2413
1200 Pennsylvania Avenue
Washington, D. C. 20044

Dear Mr. Rhett:

As you may be aware, the Montana Department of Natural Resources and Conservation in its Draft EIS has recommended that a state Interagency Pipeline Task Force (IPTF) be established for the Northern Border Pipeline. On July 30, 1980 the Governor, with the approval of the Northern Tier Pipeline Company, approved the establishment of the IPTF for the Northern Tier Pipeline project. The state has spent much time and effort to develop the IPTF as a mechanism to coordinate information among state agencies and to facilitate the state permitting process; because of this, and my firm belief that the IPTF concept is valid, I wanted to convey to you my thoughts on this approach.

The IPTF is not another level of government in the pipeline regulatory process. It is designed to provide a mechanism for coordinating both state and federal regulatory pipeline construction efforts. This represents Montana's effort to streamline and coordinate, under existing legal limitations, state regulatory actions for siting large diameter pipelines. In addition, it is an honest effort by Montana state government to work in concert with a pipeline company to address the problems of siting a project that crosses many jurisdictions and environments.

This approach is appropriate for the Northern Border Pipeline project because the mechanism and staff are already in place for the Northern Tier Pipeline. There is no need for additional new staff for the Northern Border Pipeline, only a funding agreement. This flexible approach benefits both the pipeline company and the State of Montana. State government will benefit if state agencies continue to be provided with personnel and resources in the form of skills, knowledge, and money to properly and efficiently process the plethora of similar permitting functions or duties required for both pipeline projects. The pipeline companies will benefit by state government's efforts to provide a single, knowledgeable contact point working to coordinate state and federal regulatory actions and company pipeline construction through Montana. Simply put, the IPTF will expedite the permitting of a pipeline project, not delay it.

AN EQUAL OPPORTUNITY EMPLOYER

The President's decision on the Northern Border Pipeline, Congressional intent behind the Alaskan Natural Gas Transportation System Act, and other public laws such as the Public Utility Regulatory Policies Act of 1978, address state input and cooperation. Montana, as other states, has been charged by these laws with ensuring environmental integrity on lands under its jurisdiction. The need for continued state-federal cooperation on interstate projects such as the Northern Border Pipeline does not cease with the issuance of an EIS or the issuance of the final certificate of approval from the Federal Energy Regulatory Commission (FERC). On the contrary, the need and utility for state input increases when it comes time to determine and finalize site-specific details that directly affect areas of pertinent state and local concern.

I have always supported and encouraged the concept of joint cooperation and coordination. The IPTF provides such a flexible mechanism for fulfilling the obligations of state agencies for both the Northern Tier Pipeline and the Northern Border Pipeline with a minimum of hardship for all parties.

In summary, I am asking for your support for our recommendation that the IPTF be employed on the Northern Border Pipeline project. Without the IPTF, state agency decision making and permitting of the pipeline will not be coordinated, and permitting delays could result.

Sincerely,

Ted J. Doney

TED J. DONEY
DIRECTOR

TJD/KH/nj
cc: Governor Thomas L. Judge
Lt. Governor Ted Schwinden

Karl Frantzen
Northern Border Pipeline Company
2223 Dodge Street
Omaha, NE 68102

Arthur Knight, Director DHES
Ronald Richards, Director Dept. of Highways
Leo, Berry, Commissioner Dept. of State Lands

Neil Morck, Energy Right-of-Way Bureau
Bureau of Land Management
Montana State Office
P.O. Box 30157
Billings, MT 59107

John Etchart
Northern Tier Pipeline Co.
509 Midland Bank Building
Billings, MT 59101

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ACKNOWLEDGEMENTS

Policy Guidance and Final Approval:
Ted J. Doney, Director, Montana Department of Natural Resources & Conservation

Project Direction:
Randall F. Moy, Administrator, Facility Siting Division
Kathleen Hadley, Chief, Project Bureau
Paul Stolen, Project Manager

Research and Writing:
Ray Breuninger, Physical Sciences Coordinator
Kevin Hart, Environmental Specialist
Pat Nichols, Wildlife Biologist
Nancy Owens, Cultural Sciences Coordinator
Fred Robinson, Aquatic Biologist
Tim Skeel, Economist
Larry S. Thompson, Biological Sciences Coordinator
Tom Wing, Physical Engineering Consultant

Technical and Policy Review:
Frank Culver, Special Staff
Jan Konigsberg, Chief, Planning & Analysis Bureau
Gail Kuntz, Chief, Environmental Studies Bureau
Don MacIntyre, Chief, Legal Counsel
Carole Massman, Special Staff
Wayne Wetzel, Special Staff

Editing:
Dave Lambert, Chief, Communications Bureau
Daniel Vichorek, Editor

Typing, Computer and Clerical Assistance:
Cheye Ann Butler, Administrative Secretary
George Cawlfield, Data Processing Manager
Rose Ann Montgomery, Text Processor

Graphic Arts:
D. R. Breiby, Administrator, Publication & Graphics Division, Department of Administration, Layout and Design
Patti McCarthy, Typesetting, Department of Administration
Gordon Taylor, Chief, Cartographic Bureau
D. C. Howard, Cartographic Bureau, Maps.
Gary Wolf, Chief, Graphic Arts Bureau, Department of Administration

General Assistance:
Ann Danzer, Administrative Assistant, Facility Siting Division
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